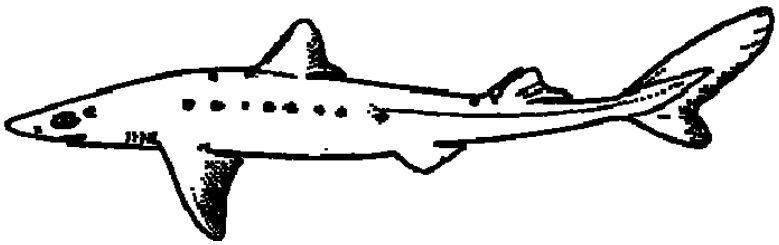
2006-2008
Spiny Dogfish Specifications, Draft Environmental Assessment, Regulatory Impact Review, and Initial Regulatory Flexibility Analysis



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Prepared by the

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in cooperation with the

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1.0 EXECUTIVE SUMMARY

Pursuant to the Magnuson Stevens Fishery Conservation and Management Act of 1976 (MSFCMA) as amended by the Sustainable Fisheries Act (SFA), the Northeast Atlantic stock of spiny dogfish (*Squalus acanthias*) is jointly managed by the Mid-Atlantic and New England Fishery Management Councils through the Federal Spiny Dogfish Fishery Management Plan (FMP). This document has been prepared in accordance with the FMP as part of the annual specification process through which the Councils recommend a commercial quota and other management measures for spiny dogfish. Additionally, the environmental impacts of the recommended management actions and the anticipated level of significance of these impacts have been addressed in accordance with the National Environmental Policy Act of 1969 (NEPA) and NAO 216-6.

Initiation of the Federal Spiny Dogfish FMP began in 1998 in response to the development and rapid expansion of a domestic commercial spiny dogfish fishery in the 1990's. At the onset of the domestic fishery, spiny dogfish population biomass was at a historic high. The rapid expansion of commercial harvest, however, quickly depleted the number of reproductively mature females in the stock. Limited by the abundance of mature females, the reproductive potential of the spiny dogfish stock had been greatly diminished, and a 1997 stock assessment classified the stock as "overfished" (SAW 17). The Federal FMP, developed in 1998 and implemented in 2000, established a recovery approach that would protect mature female spiny dogfish so that stock rebuilding could be achieved as quickly as practicable. A recovery plan was adopted that would constrain fishing mortality (F) on the female reproductive stock for 5 years at $F_{rebuild}$ (0.03), after which the maximum allowable F would be increased to 0.08. Because the commercial fishery concentrated on mature females, achieving $F_{rebuild}$ required the elimination directed harvest effort for spiny dogfish. Specifically, a incidental catch quota (4.0 million pounds) was specified in the FMP, and very low possession limits (600 pounds per trip in period 1, and 300 pounds per trip in period 2) were implemented through the annual specification process in order to discourage directed harvest effort while providing a small bycatch allowance. These restrictive possession limits were not implemented in state-jurisdictional waters until the 2004 fishing year, and this inconsistency, as well as delays in the implementation of the Federal FMP are likely to have impeded the success of the stock rebuilding plan. At this time, the Northwest Atlantic spiny dogfish stock continues to be classified as overfished; however, overfishing is not occurring. Recent population projections (NEFSC 2003) suggest a time span of 15 to 20 years before the stock will have fully recovered.

The regulations implementing the FMP at 50 CFR part 648, subpart L, outline the process for specifying the commercial quota and other management measures (e.g., minimum or maximum fish sizes, seasons, mesh size restrictions, possession limits, and other gear restrictions) necessary to assure that the target F specified in the FMP will not be exceeded in any fishing year (May 1–April 30), for a period of 1–5 fishing years. The target F is not to exceed 0.08. Also, as per the regulations, annual quota shall be allocated between two semi-annual quota periods as follows: period 1, May 1 through October 31 (57.9 percent); and period 2, November 1 through April 30 (42.1 percent). A commercial harvest quota will be allocated to the fishery such that the appropriate fishing

mortality (F) for a given year will not be exceeded. The quota recommendation will be based upon the latest stock status information, coupled with the target fishing mortality rate indicated in the FMP. For FY2004 and thereafter, the FMP stipulates that fishing mortality should be constrained between zero and a maximum of F = 0.08. Management advice provided by the most recent peer-reviewed stock assessment (37th Stock Assessment Workship (SAW) - NEFSC 2003), however, included a recommendation that total removals not exceed the amount corresponding to F=0.03 (i.e., $F_{rebuild}$). The F=0.08 maximum was based on the expectation, at the time the FMP was being developed, that mature female biomass would have recovered to 90% of the level that maximizes recruitment (SSB_{max}) by 2003. Management advice provided by the 37th SAW, on the other hand, was based on their review of a 2003 stock assessment that estimated mature female biomass at around 29% of SSB_{max}.

The most recent information on spiny dogfish stock status was presented to the Councils' Spiny Dogfish Monitoring Committee at its Sept 22, 2005 meeting. The updated information indicated no increase in mature female biomass compared to the previous year's estimate. As such, the Monitoring Committee recommended management measures for FY2006 that would continue to discourage the harvest of mature female spiny dogfish. Specifically, the Monitoring Committee recommended a cap ("quota") of 2.0 million lbs on landings of incidentally caught dogfish and status quo possession limits of 600 pounds/possession in period 1 and 300 lbs/possession in period 2. The 2.0 million lb quota is a 50% reduction from the status quo (FY2005) quota of 4.0 million lbs. The Monitoring Committee recommended the reduction in light of the failure of the fishery to land the 4.0 million lb quota in FY2005. Fishery landings in FY2005 were approximately 1.5 million lbs.

As per the FMP, the Joint Spiny Dogfish Committee reviewed the Monitoring Committee's recommendations and made an independent management recommendation to the Councils. The Joint Committee met on October 4, 2005 and recommended that for the Councils adopt a status quo quota of 4.0 million pounds and that possessions limits be set at 600 pounds for both quota periods. Additionally, the Joint Committee recommended that these measures apply only to the upcoming fishing year. The Joint Committee recommended increasing possession limits above the status quo in order to accommodate the high volume demand required by the processing sector of the spiny dogfish fishery. The restriction of those measures to FY2006 was recommended because a benchmark assessment will be conducted in 2006.

Framework Adjustment 1 to the Spiny Dogfish FMP was implemented January 19, 2006. The framework adjustment allows the Councils to specify management measures for as many as five years. Although the Framework allows specifications to be set for as many as 5 years, it also provides for the opportunity to alter those specifications if need be. If new information was to indicate that modification to the multi-year management measures is necessary, the Councils would initiate specification of management measures required to make such modifications. More specifically, NOAA Fisheries managers and Council staff will continue to review data collected from the fishery and resource surveys, and will raise to the Councils any changes in stock status that might require the Council to revise the specifications before the multi-year period runs its course.

The Monitoring Committee and the Councils addressed multi-year management measures at their meetings in 2005, in anticipation of the framework's implementation. Because the recovery trajectory for spiny dogfish is expected to be rather gradual under the most conservative management regime, the Monitoring Committee did not anticipate a need to adjust the cap and possession limits upward or downward over the next three fishing years. The Committee, therefore, recommended that the quota and possession limits for FY2006 also be applied to the 2007 and 2008 fishing years.

At its October 5, 2005 meeting, the Mid-Atlantic Fishery Management Council (MAFMC) endorsed the Monitoring Committee's recommendation for a 2.0 million pound incidental catch quota, but recommended possession limits of 600 pounds of spiny dogfish in both quota periods. The Mid-Atlantic Council also endorsed the Monitoring Committee's recommendation that the management measures be applied to the upcoming three fishing years (FY2006-FY2008).

The New England Fishery Management Council (NEFMC), at its November 16, 2005 meeting, recommended an incidental catch quota of 4.0 million pounds, with possession limits of 600 pounds in both quota periods. Additionally, the New England Council recommended that the management measures be applied only to the upcoming 2006 fishing year.

The FMP provides for disagreement between the Councils on management measures for the upcoming fishing year in that the Northeast Regional Administrator of the National Marine Fisheries Service (NMFS) may select from any alternative that has not been rejected by both Councils. None of the alternatives presented in this document were rejected by both Councils.

NMFS reviewed the alternatives presented by the Council and developed a slightly different proposed alternative, which is identical to the NEFMC alternative, except it will be set for three years.

Table E-1 presents a qualitative summary of the impacts of the various management alternatives.

Alternative 1 – (Mid-Atlantic Council Alternative): Specify commercial quota of 2.0 million pounds for each of the upcoming three fishing years (FY2006 through FY2008). Within the fishing years, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quotas would be divided with quota period 1 (May 1 through October 31) being allocated 57.9% of the 2,000,000 pound quota (1,158,000 pounds), and quota period 2 (November 1 through April 30) being allocated 42.1% of the 2,000,000 pound quota (842,000 pounds).

This alternative is consistent with the Monitoring Committee's recommendations, with the exception that a larger possession limit would be allowed in period 2. The larger period 2 possession limit, however is equivalent to the period 1 possession limit (600

lbs), which has been successful in eliminating the directed fishery. Therefore, by reducing the incidental catch quota and maintaining highly restrictive possession limits, Alternative 1 is expected to contribute to stock recovery. This alternative would contribute to the rebuilding of the dogfish stock. Additionally, relative to no action, no impacts are expected on non-target species, habitat including EFH, protected resources, or human communities.

Alternative 2 – (New England Council Alternative): Specify commercial quota of 4.0 million pounds for the upcoming fishing year (FY2006) only. Within the fishing year, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

This alternative would maintain the Federal quota that has been in place for the past five fishing years. Only 1.5 million lbs of spiny dogfish were harvested in the last complete fishing year (FY2004), however, that was in large part because FY2004 was the first fishing year in which Federal and State quotas and, more importantly, possession limits were consistent in Federal and state waters. Relative to Alternative 1, Alternative 2 is associated with an increased (albeit inestimable) risk that landings of spiny dogfish would increase because of the higher quota, although, again, the possession limits should prove controlling. The magnitude of the increase, if any, would not jeopardize stock recovery, though it could extend rebuilding by one or two years. The no action alternative, which has a lower possession limit for period 2 is projected to maintain landings at current levels so alternative 2 differs only slightly from the no-action alternative. Additionally, relative to the no action, no impacts are expected on non-target species, habitat including EFH, protected resources, or human communities if Alternative 2 is implemented.

Alternative 3 – (No Action): No specified commercial quota, possession limits of 600 pounds in Period 1 and 300 pounds in Period 2 for FY2006.

Alternative 3 would maintain status quo (FY2005) possession limits for FY2006; however it would fail to establish a commercial quota for spiny dogfish. This is because the 300 and 600 lb possession limits are included in the spiny dogfish regulations and will remain in place unless those regulations are changed. The quota is not imbedded in the regulations, but is periodically established through the specifications process in the regulations. Theoretically, landings could vastly exceed recent levels under this alternative, but that would seem unlikely with these restrictive possession limits. These possession limits rather than the commercial quota have, in fact, eliminated the directed commercial fishery for spiny dogfish in U.S. waters. As such, this analysis presumes that the implementation of Alternative 3 would likely maintain status quo landings and result in no significant changes to the human environment in FY2006 compared to FY2005 or FY2004. While a true no-action alternative would mean no quota was established, this alternative is for purposes of comparison only. The FMP requires that a commercial quota is established.

Alternative 4 – (National Marine Fisheries Service (NMFS)-Proposed Alternative): Specify commercial quota of 4.0 million pounds and a possession limit of 600 pound for the next three fishing years (FY2006-2009). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

This action would maintain the Federal quota that has been in place for the past five fishing years, and is the same quota as Alternative 2. Only 1.5 million lbs of spiny dogfish were harvested in the last complete fishing year (FY2004), and that was because FY2004 was the first fishing year in which Federal and State quotas were consistent, and more importantly, possession limits were consistent in Federal and state waters. The landings in that year also showed that landings may be constrained as much by the possession limits as the overall quota. Therefore, relative to the no action alternative, the proposed action is associated with an increased (albeit inestimable) risk that landings of spiny dogfish would increase to 4 million lbs from recent levels. The magnitude of the increase, if any, would not jeopardize stock recovery, though it could extend rebuilding by one or two years. Additionally, relative to the no action alternative, no impacts are expected on non-target species, habitat including EFH, protected resources, or human communities if the proposed action is implemented.

Table E-1. Qualitative summary of the expected impacts of various alternatives considered for the spiny dogfish specifications.

Proposed Federal Action		**Valued ecosystem Component (VEC)**				
Spiny Dogfish Management Alternatives		**Target Fishery**	**Non-target Species**	**Protected Species**	**Habitat (including EFH)**	**Human Communities**
Alt. 1	Quota: 2 million pounds Possession Limits: 600 pounds Timeframe: 3 years	**Positive** Mortality would be capped roughly at 2004 level	**No Impact** Discarding not an issue in light of the elimination of directed fishing	**No Impact** P.R. encounters not an issue in light of the elimination of directed fishing	**No Impact** Habitat impacts not an issue in light of the elimination of directed fishing	**Low Positive** No significant overall revenue changes expected relative to Alt 3, slight revenue increase possible in period 2
Alt. 2	Quota: 4 million pounds Possession Limit: 600 pounds Timeframe: 1 year	**Neutral** Mortality could increase slightly from 2004 level	**No Impact** Discarding not an issue in light of the elimination of directed fishing	**No Impact** P.R. encounters not an issue in light of the elimination of directed fishing	**No Impact** Habitat impacts not an issue in light of the elimination of directed fishing	**Low Positive** Status quo revenue likely; slight revenue increase possible in period 2
Alt. 3	Quota: None specified Possession Limits: 600/300 pounds in periods 1, 2 respectively Timeframe: 1 year	**Neutral** Mortality could increase slightly from 2004 level	**No Impact** Discarding not an issue in light of the elimination of directed fishing	**No Impact** P.R. encounters not an issue in light of the elimination of directed fishing	**No Impact** Habitat impacts not an issue in light of the elimination of directed fishing	**Neutral** Maintain status quo revenue, no revenue increase expected
Alt. 4 (Pref.)	Quota: 4 million pounds Possession Limit: 600 lb Timeframe: 3 years	**Neutral** Mortality could increase slightly from 2004 level	**No Impact** Discarding not an issue in light of the elimination of directed fishing	**No Impact** P.R. encounters not an issue in light of the elimination of directed fishing	**No Impact** Habitat impacts not an issue in light of the elimination of directed fishing	**Low Positive** Status quo revenue likely; slight revenue increase possible in period 2

2.0 LIST OF ACRONYMS

ACFCMA	Atlantic Coastal Fisheries Cooperative Management Act
ASMFC	Atlantic States Marine Fisheries Commission or Commission
B	Biomass
CEQ	Council on Environmental Quality
CPUE	Catch Per Unit Effort
DPS	Distinct Population Segment
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act of 1973
F	Fishing Mortality Rate
FR	Federal Register
FMP	Fishery Management Plan
GRA	Gear Restricted Area
HPTRP	Harbor Porpoise Take Reduction Plan
IRFA	Initial Regulatory Flexibility Analysis
LTPC	Long-term Potential Catch
LWTRP	Large Whale Take Reduction Plan
M	Natural Mortality Rate
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistical Survey
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum Sustainable Yield
mt	metric tons
NAO	National Oceanic and Atmospheric Administration Order
NE	New England
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OY	Optimal Yield
PBR	Potential Biological Removal
PRA	Paperwork Reduction Act
PREE	Preliminary Regulatory Economic Evaluation
RIR	Regulatory Impact Review
RSA	Research Set-Aside
SAFMC	South Atlantic Fishery Management Council
SARC	Stock Assessment Review Committee
SAV	Submerged Aquatic Vegetation
SAW	Stock Assessment Workshop
SMA	Small Business Administration
SSB	Spawning Stock Biomass
SFA	Sustainable Fisheries Act
TAL	Total Allowable Landings
TL	Total Length
VECs	Valued Ecosystem Components
VMS	Vessel Monitoring System
VPA	Virtual Population Analysis
VTR	Vessel Possession Report

3.0 LIST OF TABLES

Tables are located in sequential order at the end of the document.

4.0 INTRODUCTION AND BACKGROUND OF SPECIFICATION PROCESS

4.1 Purpose and Need for the Action

The purpose of this action is to specify Federal spiny dogfish management measures for fishing year 2006 (FY2006: May 1, 2006 - April 30, 2007), or, as authorized under Framework Adjustment 1 to the Spiny Dogfish FMP as many as the next five fishing year (2006 to 2010). As required by the FMP, this action is needed to establish a commercial fishing quota and any other management measures that will ensure that the target fishing mortality rate (F_{target} = 0.08) for spiny dogfish is not exceeded in any given year. Pursuant to the FMP, the commercial quota is subdivided into two semi-annual periods. The period from May 1-October 31 (period 1) is allocated 57.9 % of the annual quota and the period from November 1-April 30 (period 2) is allocated 42.1 % of the annual quota. In addition to the commercial quota, the Councils may also recommend possession limits, minimum or maximum fish sizes, seasons, mesh-size restrictions, and other gear restrictions.

The FMP established a procedure to develop management measures based on analyses of fishery and scientific information by the Spiny Dogfish Monitoring Committee. The Spiny Dogfish Monitoring Committee is made up of staff representatives from the Mid-Atlantic Council, the Northeast Regional Office, the Northeast Fisheries Science Center, and state representatives. The state representatives include any individual designated by an interested state from Maine to Florida. In addition, the Committee includes two non-voting, ex-officio industry representatives (one each from the Mid-Atlantic and New England Council regions). The Spiny Dogfish Monitoring Committee reviews the best available data and makes a recommendation to the Councils' Joint Spiny Dogfish Committee with regard to commercial and recreational measures designed to assure that the target fishing mortality level for spiny dogfish is not exceeded in any given year.

The Spiny Dogfish Monitoring Committee met on September 22, 2005 and developed recommendations based on stock conditions estimated from the latest stock status updates. Although the Spiny Dogfish FMP allows for a maximum fishing mortality rate of F = 0.08, the 37th SARC recommended that total removals not exceed the amount corresponding to F=0.03 ($F_{rebuild}$). The F=0.08 maximum identified in the FMP was based on the expectation, in 1999, that mature female biomass would recover to 90% SSB_{max} by 2003. On the other hand, the management advice provided by the 37th SARC was based on their review of the 2003 stock assessment. That assessment estimated mature female biomass in 2003 at around 29% of SSB_{max}. Updated stock status information reviewed by the Monitoring Committee indicated that mature female biomass had not increased in 2005 compared to 2003 estimates. As such, the Monitoring Committee could find no biological justification for deviating from the advice of the 37th SARC. The Committee, therefore, recommended management measures consistent with achieving F=0.03 ($F_{rebuild}$). Specifically, the Monitoring Committee recommended continuation of that a cap on the landings of incidentally captured spiny dogfish (i.e., "commercial quota") be set at 2.0 million pounds, a 50% reduction from the FY2005 quota. Additionally, the Committee recommended status quo possession limits of 600 pounds/possession in period 1 and 300 pounds/possession in period 2. The Committee's

recommended reduction in the incidental catch quota was based on the observation that in the last complete fishing year (FY2004), only about 1.5 million pounds of spiny dogfish were landed even though the harvest cap was 4.0 million pounds. As such, the Committee felt that 2.0 million pounds represented a more realistic cap based on fishery behavior. The status quo possession limits recommended by the Committee are intended to allow for the retention of small amounts of incidentally captured spiny dogfish, while not significantly affecting total removals (i.e., fishing mortality). Additionally, because the recovery trajectory is expected to be rather gradual under the most conservative management regime, the Committee recommended maintaining the quota and possession limits for the next three fishing years (FY2006 – FY2008).

As per the FMP, the Joint Spiny Dogfish Committee reviewed the Monitoring Committee's recommendations and made an independent management recommendation to the Councils. The Joint Committee met on October 4, 2005 and recommended that for the Councils adopt a status quo quota of 4.0 million pounds and that possessions limits be set at 600 pounds for both quota periods. Additionally, the Joint Committee recommended that these measures apply only to the upcoming fishing year. The Joint Committee recommended increasing possession limits above the status quo in order to accommodate the high volume demand required by the processing sector of the spiny dogfish fishery. The restriction of those measures to FY2006 was recommended because a benchmark assessment will be conducted in 2006. The Councils received the recommendations of the both Monitoring Committee and the Joint Committee and adopted the recommendations outlined in section 5.0 below. NMFS reviewed the Council's recommendations and proposed a new alternative, which is also described below.

4.2 Management Objectives of the Spiny Dogfish FMP

The overall goal of the FMP is to conserve spiny dogfish in order to achieve optimum yield from the resource in the western Atlantic Ocean. The specification of an annual commercial quota and possession limits meets that overall goal by accomplishing the following objectives, which were adopted into the FMP:

1. Reduce fishing mortality to ensure that overfishing does not occur.

2. Promote compatible management regulations between state and Council jurisdictions and the US and Canada.

3. Promote uniform and effective enforcement of regulations.

4. Minimize regulations while achieving the management objectives stated above.

5. Manage the spiny dogfish fishery so as to minimize the impact of the regulations on the prosecution of other fisheries, to the extent practicable.

6. Contribute to the protection of biodiversity and ecosystem structure and function.

5.0 MANAGEMENT ALTERNATIVES

5.1 Alternative 1 – (Mid-Atlantic Council Alternative)

Specify commercial quota of 2.0 million pounds for each of the upcoming three fishing years (FY2006 through FY2008). Within the fishing years, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quotas would be divided with quota period 1 (May 1 through October 31) being allocated 57.9% of the 2,000,000 pound quota (1,158,000 pounds), and quota period 2 (November 1 through April 30) being allocated 42.1% of the 2,000,000 pound quota (842,000 pounds).

5.2 Alternative 2 – (New England Council Alternative)

Specify commercial quota of 4.0 million pounds for the upcoming fishing year (FY2006) only. Within the fishing year, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

5.3 Alternative 3 - (No Action Alternative)

Alternative 3 would maintain status quo (FY2005) possession limits for FY2006; however it would fail to establish a commercial quota for spiny dogfish. This is because the 300 and 600 lb possession limits are included in the spiny dogfish regulations and will remain in place unless those regulations are changed. The quota is not imbedded in the regulations.

5.4 Alternative 4 - (NMFS-Proposed Alternative):

Specify commercial quota of 4.0 million pounds and a possession limit of 600 pound for the next three fishing years (FY2006-2009). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

6.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND FISHERIES

6.1 Spiny Dogfish Stock and Fisheries

6.1.1 Spiny Dogfish Biology and Ecological Relationships

A complete description of spiny dogfish biology and ecological relationships is given in Section 2.1.3 in the FMP. A summary is provided here.

The spiny dogfish, *Squalus acanthias*, is a small coastal shark with a circumboreal distribution. In addition to being the most abundant shark in the western North Atlantic, it is also one of the most highly migratory species of the Atlantic coast (Bigelow and Schroeder 1953). Rago et al. (1994) report that their general distribution in the

Northwest Atlantic is between Labrador and Florida but are most abundant from Nova Scotia to Cape Hatteras, North Carolina. Seasonal inshore-offshore movements and coastal migrations are thermally induced (Bigelow and Schroeder 1953, Jensen 1965). Generally, spiny dogfish spend summers in inshore waters and overwinter in deeper offshore waters. They are usually epibenthic, but occur throughout the water column and are found in a depth range from nearshore shallows to offshore shelf waters approaching 3,000 ft (Collette and MacPhee 2002).

Length and age at 50% maturity of spiny dogfish in the Northwest Atlantic is estimated to be 23.4 in and 6 years for males and 30.6 in and 12 years for females (Nammack et al. 1985). Litter size ranges from 2 to 15 pups (average of 6) with fecundity increasing with length (Soldat 1979). Nammack et al. (1985) reported maximum ages of in the Northwest Atlantic for males and females to be 35 and 40 years, respectively. Maximum length is estimated to be 49 inches for females and less than 36 inches for males. An estimate of M is 0.092, which was the value assumed for spiny dogfish greater than 12 in the NEFSC 1994, 1998 and 2003 assessments.

Bowman et al. (1984) observed a high degree of variability in the diet of spiny dogfish across seasons, areas and years. They considered this to be a reflection of the species omnivorous nature and the high degree of temporal and spatial variability of both dogfish and their prey. Their diet appears broadly related to abundance trends in some of their major prey items (e.g., herrings, Atlantic mackerel, codfishes, hakes, and squid). Spiny dogfish are potential competitors with virtually every marine predator within the Northwest Atlantic Ocean ecosystem. These include a wide variety of predatory fish, marine mammals and seabirds.

6.1.2 Status of the Spiny Dogfish Stock

At the onset of the domestic fishery in the early 1990's, population biomass for the Northwest Atlantic stock of spiny dogfish was at its highest estimated level (approx. 1.2 billion pounds). The rapid expansion of commercial harvest, however, quickly reduced the biomass of large, market-size (> 80cm) females in the stock (approx. 500 million pounds in 1990 to approx. 175 million pounds in 1997); while the biomass of large male dogfish remained relatively steady (approx. 60 million pounds). This asymmetrical depletion pattern was a consequence of the larger average size and, therefore, greater market value of female spiny dogfish. Because of the species' biology, market-size female dogfish represent the bulk of the reproductive stock for the population. Noting the greatly diminished reproductive potential of the spiny dogfish stock, a 1997 stock assessment characterized the stock as "overfished" (SAW 17). The Federal Spiny Dogfish FMP, which was developed in 1998 in response to the assessment results, established a recovery plan to protect mature female spiny dogfish so that stock rebuilding could be achieved as quickly as practicable. When the FMP was implemented in 2000, it specified constraining fishing mortality (F) on the female reproductive stock at 0.03 ($F_{rebuild}$) throughout the rebuilding period (through fishing year 2003), after which it was expected that it could be increased to as much as F =0.08. Because the directed commercial fishery concentrated on mature female dogfish, achieving $F_{rebuild}$ required the elimination directed harvest effort during the rebuilding period. Therefore, an incidental

catch quota of 4.0 million pounds was specified in the FMP, and very low possession limits (600 pounds per possession in period 1,300 pounds per possession in period 2) were implemented through the annual specification process in order to discourage directed harvest while still providing a small bycatch allowance. These restrictive possession limits were not implemented in state-jurisdictional waters until the latest complete fishing year (FY2004). This inconsistency, as well as the delayed implementation of the Federal FMP is likely to have impeded the success of the stock rebuilding plan. At this time, the Northwest Atlantic spiny dogfish stock continues to be classified as overfished; however, overfishing is not occurring. Recent population projections (NEFSC 2003), which factor in U.S. commercial harvest at $F_{rebuild}$ as well as status quo removals from all other sources (U.S. commercial discards, Canadian commercial fishery landings, U.S. recreational discards and landings) suggest a time span of 15 to 20 years before the stock will have fully recovered.

The most recent peer-reviewed evaluation of the status of the Northwest Atlantic spiny dogfish stock was conducted at the 37th Northeast Regional Stock Assessment Workshop (NEFSC 2003). According to the Advisory Report that accompanied that assessment the spiny dogfish stock was overfished in 2003, however, overfishing was not occurring. The reproductively mature female component of the stock (SSB) had declined from the historic high in 1990 (~500 million pounds) to about 115 million pounds in 2003 (29% of the recommended biomass target – 400 million pounds). The low level of SSB was expected to result in low recruitment for the next several years, and recruitment estimates from 1997 to 2003 were observed to represent the seven lowest values in the entire time series. Fishing mortality in 2002 was estimated to be about 0.09. As stated above, the 37th SAW recommended that total removals (landings, discards, Canadian catch) be constrained below levels consistent with F=0.03 ($F_{rebuild}$).

At their Sept 22, 2005 meeting, updates to spiny dogfish stock status were evaluated by the Spiny Dogfish Monitoring Committee. The Committee noted a slight decline in mature female biomass compared to 2004 estimates (~132 million pounds in 2004 vs. ~118 million pounds in 2005). Fishing mortality had increased slightly from 0.04 in 2003 to 0.07 in 2004, which exceeds $F_{rebuild}$ (0.03). In response to the updated stock status information, the Monitoring Committee could find no biological justification for deviating from the advice of the 37th SARC. The Committee, therefore, recommended management measures for the 2006 through 2008 fishing years consistent with achieving F=0.03 ($F_{rebuild}$). Specifically, the Spiny Dogfish Monitoring Committee recommended the continued prohibition of directed spiny dogfish fishing (targeting large females). The Monitoring Committee's specific advice on management actions for FY2006 – FY2008 is described in Section 4.1, above.

6.1.3 Spiny Dogfish Catch

A variety of domestic and foreign interests have historically participated in the harvest of the Northwest Atlantic spiny dogfish stock. Calendar year harvest estimates from 1962-2004 are provided in Table 1. These include landings from U.S. commercial and recreational sectors as well as Canadian, former USSR, and "other foreign" commercial fisheries. A thorough characterization of the historic (pre-FMP) fishery for spiny dogfish

is given in Section 2.3.1 of the FMP. Since the Federal FMP was implemented in 2000, annual landings of spiny dogfish have declined considerably. In 2004, overall harvest (7.6 million pounds) was about 12.3% of the historic high (61.6 million pounds), which occurred in 1996 (Table 1).

6.1.3.1 Spiny Dogfish Commercial Catch

The spiny dogfish commercial catch currently comprises a combination of U.S. commercial landings and discards, as well as Canadian commercial landings. Canadian commercial discards are not currently estimated.

6.1.3.1.1 U.S. Commercial Spiny Dogfish Landings

In calendar year 2004, U.S. commercial landings were 2.16 million pounds, which is about 3.6% of the 1996 high (60.1 million pounds; Table 1). Within the U.S., commercial harvest has historically been dominated by Massachusetts (Table 2). Table 3 indicates the distribution of harvest by month and state since the implementation of the FMP in 2000. The New England states, particularly Massachusetts tend to dominate landings in the summer and early fall. Although landings in January through April are greatest in the Mid-Atlantic region, 92% of overall spiny dogfish landings occur in New England, with Massachusetts taking 72% (Table 3).

Unpublished NMFS dealer reports indicate that 1.5 million pounds of spiny dogfish valued at $260,000 were landed by U.S. commercial vessels in the 2004 fishing year (Tables 4, 5). About 29% of the landings were recorded in dealer reports at levels exceeding Federal and State possession limits, although many of these, for which the dealer and/or vessel was unidentified, may have come from consolidated state reporting.

Although the Federal quota for spiny dogfish has been consistently set at 4.00 million pounds since the FY2000, FY2004 was the first complete fishing year in which the same quota and possession limits were in place in both Federal and State waters. The resultant harvest of only 1.5 million pounds (37.5% of the quota) suggests that these restrictions are effectively discouraging commercial fishing for spiny dogfish. Landings in FY2004 represented about a 50% decrease from the FY2003 landings (3.14 million pounds). As indicated in Table 4, Massachusetts accounted for the largest share of the commercial landings in FY2004 (80.4 %), followed by Rhode Island (9.0%), Connecticut (3.9%), New York (3.3%), and Virginia (2.6%). Spiny dogfish were landed in all months in FY2004 with peak landings occurring in July - October of period 1 and November and December of period 2 (Table 4).

6.1.3.1.2 U.S. Commercial Spiny Dogfish Discards

A method for estimating spiny dogfish discards as a function of the landings from various commercial fishing sectors (catch-based method) was developed in the latest peer-reviewed stock assessment (NEFSC 2003). Dead discards were calculated as the product of total estimated discards by gear type and assumed proportional mortality by gear type. Proportional mortalities by gear type were assumed to be 75% for gillnets, 50% for

trawls, and 25% for hook gear. Following the current estimation method, dead discards from U.S. commercial fishing activity appears to have peaked at about 104 million pounds in 1991, and subsequently declined and stabilized at around 10 million pounds since 1997. In 2004, dead discards from U.S. commercial fisheries were estimated to be about 14.65 million lbs.

6.1.3.1.3 Canadian Commercial Spiny Dogfish Landings

Historic Canadian commercial landings have been low relative to landings from the U.S. commercial fishery (Table 1). In 2001, following the implementation of the FMP, Canadian commercial landings (8.3 million pounds) exceeded U.S. commercial landings (5.1 million pounds) for the first time. Canadian commercial landings have decreased since then, but in 2004, were more than double the U.S. landings (Table 1). Although U.S. Federal and State managers have implemented severe restrictions on the harvest of spiny dogfish, Canada has maintained a directed fishery under a 5.5 million pound quota with no possession limits.

6.1.3.2 U.S. Spiny Dogfish Recreational Catch

Estimates of the recreational catch (landings and discards) of spiny dogfish are generated from data obtained through the NMFS Marine Recreational Fishery Statistics Survey (MRFSS). Uncertainty associated with both the discard mortality and average size of recreationally caught spiny dogfish makes it necessary to report the recreational catch as a range, rather than a single estimate. Spiny dogfish are generally caught with live bait and are often mishandled by anglers. As such, the estimated recreational catch has historically included the assumption that discard mortality is 100%. The assumed discard mortality for commercially caught spiny dogfish from hook and line gear is 25%, however, and the recreational discard mortality may be closer to this estimate. Size information obtained through the MRFSS is rather poor with respect to spiny dogfish. This is due to the very small number of fish measured by MRFSS observers in a given year. In 2004, the MRFSS estimate of mean weight was 2.25 kg. The NEFSC has historically computed total catch in weight using a constant assumed weight of 5.5 pounds (2.5 kg) per fish. Using the minimum and maximum of estimated discard mortalities and mean weights, estimated recreational removals (landings and dead discards) in 2004 ranged from about 1.8 to 7.3 million pounds. The maximum estimate of total recreational removals (7.3 million pounds) was used to calculate fishing mortality for 2004. Total recreational removals were dominated by discards with recreational landings (244 thousand pounds) comprising only 3.3% of the 2004 total. As indicated in Table 6, Massachusetts accounted for the largest share of the recreational landings (67.7%), followed by New Hampshire (8.2%), New Jersey (7.6 %), Virginia (4.5%), Rhode Island (2.9%), Maryland (2.2%), Maine (1.9%), Connecticut (1.8%), Delaware (1.8%), and South Carolina (1.4%).

6.2 Non-target Species

Although an evaluation of fishery impacts on non-target species may be fairly straight-forward for most Federally-managed species, the circumstances under which spiny dogfish are harvested represents somewhat of an anomaly. This is because, at the present

time, directed spiny dogfish fishing has been eliminated in both state and Federal waters. As such, the spiny dogfish is, for the most part, a non-target species, the landing of which is a byproduct of the activity of other fishery operations. Participants in these other fisheries may obtain a Federal permit that will allow them to retain and sell small amounts of incidentally captured spiny dogfish. The FY2004 bycatch allowance was 600 pounds per possession in quota period 1 (May 1 – Oct 31) and 300 pounds per possession in quota period 2 (Nov 1 – Apr 30). At the average FY2004 price of $0.17 per lb, harvesting the larger of the two periodic possession limits (600 pounds) would generate only $102.00 gross revenue. This is generally much less than the amount necessary to offset the cost of a fishing possession (NEFSC 2003 unpubl. data). Additionally, given the protracted rebuilding period estimated in the latest stock assessment (~20 years), the corresponding management advice does not allow for the development of a directed spiny dogfish fishery in the near future. To the extent that implemented harvest policy is consistent with that advice, the distribution and intensity of fishery effort is not expected to be significantly influenced by the bycatch allowance for spiny dogfish. As such, the concept of impacts on "non-target species" is not particularly appropriate for the management of this species.

Nevertheless, the deployment of certain commercial gear types tends to be associated with the retention of spiny dogfish. The catch of spiny dogfish by gear in FY2004 is given in Table 7. These data indicate that spiny dogfish landings came mostly from sink gill nets (66.0%) and fish bottom otter trawls (18.2%). Discards associated with the deployment of these gear types when spiny dogfish were retained were derived from FY2004 vessel possession report (VTR) data and are indicated in Table 8. Spiny dogfish comprised the bulk of the discards for either gear type, 95% for sink gill nets, and 65% for bottom otter trawls. Other species reported to be discarded were cod (2%) in sink gill nets, and skates (24%), and summer flounder (2%) in bottom otter trawls (Table 8).

6.3 Habitat Including EFH

The affected environment for management actions proposed in this document encompasses all of the spiny dogfish EFH. Given the ubiquitous distribution of spiny dogfish (Northwest Atlantic between Labrador and Florida) this also includes EFH for most federally managed species. A more complete description of essential fish habitat for spiny dogfish is given in Section 2.2.2 in the FMP. A summary of that description is given here.

For juvenile spiny dogfish, EFH is defined as: 1) North of Cape Hatteras, the waters of the Continental shelf from the Gulf of Maine through Cape Hatteras, North Carolina in areas that encompass the highest 90% of all ranked ten minute squares for the area where juvenile dogfish were collected in the NEFSC trawl surveys. 2) South of Cape Hatteras, the waters over the Continental Shelf from Cape Hatteras, North Carolina through Cape Canaveral, Florida, to depths of 1280 ft. 3) Inshore, the "seawater" portions of the estuaries where dogfish are common or abundant on the Atlantic coast, from Passamaquoddy Bay, Maine to Cape Cod Bay, Massachusetts. Generally, juvenile dogfish are found at depths of 33 to 1280 ft in water temperatures ranging between 37ºF and 82ºF.

For adults: 1) North of Cape Hatteras, EFH is the waters of the Continental shelf from the Gulf of Maine through Cape Hatteras, North Carolina in areas that encompass the highest 90% of all ranked ten minute squares for the area where adult dogfish were collected in the NEFSC trawl surveys. 2) South of Cape Hatteras, EFH is the waters over the Continental Shelf from Cape Hatteras, North Carolina through Cape Canaveral, Florida, to depths of 1476 ft. 3) Inshore, EFH is the "seawater" portions of the estuaries where dogfish are common or abundant on the Atlantic coast, from Passamaquoddy Bay, Maine to Cape Cod Bay, Massachusetts. Generally, adult dogfish are found at depths of 33 to 1476 ft in water temperatures ranging between 37ºF and 82ºF.

As stated in the section 6.2, there is currently no directed fishery for spiny dogfish in either state or Federal waters. Commercial gear types used to harvest spiny dogfish include sink gill nets, and bottom otter trawls (Table 7). Of these gear types, the bottom otter trawl is the most likely to be associated with adverse impacts to habitat since it is a bottom-tending mobile gear. The primary impact associated with this type of gear is reduction of bottom habitat complexity (Auster and Langton, 1999). Because directed fishing for spiny dogfish has effectively been eliminated in Federal waters since FY2000 (and as of FY2004, in state waters, as well), it is unlikely that the current distribution and intensity of bottom otter trawl effort is significantly influenced by the small bycatch allowance for spiny dogfish. Additionally, the protracted rebuilding period (~20 years) estimated in the latest assessment of the spiny dogfish stock, does not allow for the development of a directed spiny dogfish fishery in the near future. As such, the harvest of spiny dogfish is not directly associated with impacts on habitat, including EFH, and this is expected to continue for several more years. As long as a directed fishery for spiny dogfish does not exist, and the retention of spiny dogfish is a byproduct of the activity of other fisheries, impacts on habitat will continue to be analyzed under the management plans for those fisheries.

6.4 Endangered and Other Protected Species

There are numerous species that inhabit the environment within the spiny dogfish management unit and are afforded protection under the Endangered Species Act of 1973 (ESA; i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act of 1972 (MMPA). Sixteen are classified as endangered or threatened under the ESA, while the remainder is protected by the provisions of the MMPA. The Council has determined that the following list of species protected either by the ESA, the MMPA, or the Migratory Bird Act of 1918 may be found in the environment inhabited by spiny dogfish:

Cetaceans

Species	Status
Northern right whale (*Eubalaena glacialis*)	Endangered
Humpback whale (*Megaptera novaeangliae*)	Endangered
Fin whale (*Balaenoptera physalus*)	Endangered
Blue whale (*Balaenoptera musculus*)	Endangered

Sei whale (*Balaenoptera borealis*)	Endangered
Sperm whale (*Physeter macrocephalus*)	Endangered
Minke whale (*Balaenoptera acutorostrata*)	Protected
Beaked whales (*Ziphius* and *Mesoplodon* spp.)	Protected
Risso's dolphin (*Grampus griseus*)	Protected

Species	Status
Pilot whale (*Globicephala* spp.)	Protected
White-sided dolphin (*Lagenorhynchus acutus*)	Protected
Common dolphin (*Delphinus delphis*)	Protected
Spotted and spossessioned dolphins (*Stenella* spp.)	Protected
Bottlenose dolphin (*Tursiops truncatus*)	Protected

Sea Turtles

Species	Status
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered
Green sea turtle (*Chelonia mydas*)	Endangered
Hawksbill sea turtle (*Eretmochelys imbricata*)	Endangered
Loggerhead sea turtle (*Caretta caretta*)	Threatened

Fish

Species	Status
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered
Atlantic salmon (*Salmo salar*)	Endangered
Smalltooth sawfish (*Pristis pectinata*)	Endangered

Birds

Species	Status
Roseate tern (*Sterna dougallii dougallii*)	Endangered
Piping plover (*Charadrius melodus*)	Endangered

Critical Habitat Designations

Species	Area
Right whale	Cape Cod Bay

The status of the marine mammal populations listed above has been discussed in detail in the U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments. Initial assessments were presented in Blaylock et al. (1995) and are updated in Waring et al. (2002). The most recent information on the stock assessment of various mammals can be found at the following website:

http://www.nmfs.noaa.gov/pr/PR2/Stock_Assessment_Program/sars.html

Three other useful websites on marine mammals are:

http://www.nmfs.noaa.gov/prot_res/PR3/recovery.html

http://spo.nwr.noaa.gov/mfr611/mfr611.htm

http://www.nmfs.noaa.gov/pr/species/Cetaceans/cetaceans.html

The North Carolina gillnet fishery for spiny dogfish was historically important in the incidental capture of both sea turtles and Atlantic bottlenose dolphins. Management measures consistent with the Federal spiny dogfish rebuilding plan have eliminated directed fishing for spiny dogfish, including the gillnet fishery for spiny dogfish in North Carolina. Additionally, protective measures under the Harbor Porpoise Take Reduction Plan (HPTRP) in combination with Federal spiny dogfish harvest policy have been sufficient to reduce gillnet fishery interactions with harbor porpoises below PBR levels.

The dominant gear types associated with the retention of spiny dogfish in 2004 (sink gill nets and bottom otter trawls) are used by several fisheries identified in the List of Fisheries for 2005 (69 CFR 48407). Sink gill nets are deployed in two Category I fisheries: "mid-Atlantic coastal gillnet" and "Northeast sink gillnet". Bottom otter trawls are deployed by two Category II fisheries: "Mid-Atlantic bottom trawl" and "Northeast bottom trawl". Because directed fishing for spiny dogfish has effectively been eliminated in Federal waters since FY2000 (and as of FY2004, in state waters, as well), it is unlikely that the current distribution and intensity of fishing effort by these gear types is significantly influenced by the small bycatch allowance for spiny dogfish. Additionally, the protracted rebuilding period (~20 years) estimated in the latest assessment of the spiny dogfish stock, does not allow for the development of a directed spiny dogfish fishery in the near future. As such, the harvest of spiny dogfish should not be directly associated with impacts on endangered and other protected species, and this is expected to continue for several more years. As long as a directed fishery for spiny dogfish does not exist, and the retention of spiny dogfish is a byproduct of the activity of other fisheries, interactions with protected species will continue to be analyzed under the management plans for those fisheries.

6.5 Fishery and Socio-economic Environment

6.5.1 Vessel Activity and Permit Information

According to unpublished NMFS permit file data, 2,911 vessels possessed Federal spiny dogfish permits in FY2004, while 180 of these vessels contributed to overall landings. The distribution of permitted and active vessels by home port state is given in Table 9. Most of the active vessels were from home ported in Massachusetts (57.8%), New York (15.0%), and Rhode Island (13.9%), with other states comprising 13.3% of the total.

NMFS dealer report data indicate that 273 dealers possessed spiny dogfish dealer permits in FY2004, while 51 of those dealers reported buying spiny dogfish. The distribution of permitted and active dealers by state is given in Table 10. Most of the active dealers were from the states of New York (29.4%), Massachusetts (27.5%), Rhode Island (21.6%), and North Carolina (5.9%), with other states comprising 15.7% of the total.

Landings by port for FY2004 are given in Table 11. Gloucester, MA accounted for the largest share of total FY2004 landings (45.0%), followed by Chatham, MA (27.6%). Point Judith, RI accounted for 5.7% of total landings and all other ports comprised less than 5% of total landings. The value of spiny dogfish landings was greater than 1% of total FY2004 port landings for "Other Chesapeake, VA", but for no other port. Total spiny dogfish landings in this port were valued at about $1,500. This information suggests that there is essentially no significant dependence on the harvest of spiny dogfish by any fishing community. This situation is likely to continue for several years given that management is expected to perpetuate elimination of the directed fishery due to the prolonged recovery time for this stock (~20 years).

6.5.2 Port and Community Description

The Council contracted with Dr. Bonnie McCay and her associates at Rutgers University to describe the ports and communities associated with the fisheries in Mid-Atlantic (McCay et al. 1993). The elimination of the directed spiny dogfish fishery in Federal waters since 2000 renders their findings for that fishery somewhat obsolete, however, their work is useful for comparison to historic trends. The Spiny Dogfish FMP contains details of McCay et al. (1993) with regard to the spiny dogfish fishery. As stated above, however, there is no significant dependence on the harvest of spiny dogfish by any fishing community.

7.0 ENVIRONMENTAL CONSEQUENCES – ANALYSIS OF DIRECT AND INDIRECT IMPACTS

7.1 Alternative 1 – (Mid-Atlantic Council Alternative)

Specify commercial quota of 2.0 million pounds for each of the upcoming three fishing years (FY2006 through FY2008). Within the fishing years, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quotas would be divided with quota period 1 (May 1 through October 31) being allocated 57.9% of the 2,000,000 pound quota (1,158,000 pounds), and quota period 2 (November 1 through April 30) being allocated 42.1% of the 2,000,000 pound quota (842,000 pounds).

7.1.1 Managed Resource Impacts of Alternative 1

The differences between this alternative and the no-action alternative is that this one would: (1) set a 2 million lb quota; (2) 600 lb possession limits; and (3) set the measures for three years. Only 1.5 million lbs of spiny dogfish were harvested in the last complete fishing year (FY2004), and that was because FY2004 was the first fishing year in which

Federal and State quotas and possession limits were consistent. The landings in that year also showed that landings are controlled more by the possession limits than the overall quota, because even though the quota during that year was 4 million lb, the possession limits restricted the amount that fishermen brought in to under 2 million lb. Thus, it appears that the U.S. commercial spiny dogfish landings are controlled more by the possession limits than the overall quota, unless the quota is set so low as to be constraining. Setting the possession limit at 600 lb throughout the year, as opposed to 600 and 300 pounds in periods 1 and 2 respectively, would allow fishermen to land higher amounts of dogfish per trip in the second period as compared to the no action alternative. Nevertheless, the increased period 2 possession limit is not expected to have much impact on total landings. If the 1,124 trips that landed spiny dogfish in period 2 of FY2004 had all landed 600 pounds, periodic landings would have increased from 320,000 pounds to 560,000 lb, and overall landings would have been below 2 million lb. This increase in landings is small in comparison to the major contributors to fishing mortality (2004 Canadian landings: 5 million pounds, and 2004 U.S. Commercial discards: 14 million pounds) which by themselves exceeded that fishing mortality target of 0.03. This alternative should contribute to the rebuilding of the dogfish stock over time. Additionally, because the period 2 possession limit would increase to 600 pounds, Alternative 1 also may result in decreased regulatory discarding of spiny dogfish relative to current levels, if with the higher possession limit in period a larger amount of dogfish, which would have been discarded, are brought in.

For FY2006, the ASMFC has approved an incidental catch quota of 4.0 million pounds and trip limits of 600 pounds. This means that non-federally permitted vessels would be able to land dogfish taken from state waters after either of the periodic Federal quotas is reached. It is possible, however, that landings would not reach 4.0 million lbs if, as is supposed, the possession limits are controlling. The different quotas in Federal and state waters could create some confusion in the industry, though the impacts would be slight because the possession limits would be consistent. Implementation of Alernative 1 is expected to achieve the rebuilding objective of the FMP.

7.1.2 Non-target Species Impacts of Alternative 1

By continuing to prevent directed spiny dogfish effort, Alternative 1 effectively eliminates bycatch mortality attributable to the dogfish fishery. As such, Alternative 1 is not associated with bycatch impacts on non-target species.

7.1.3 Habitat Impacts of Alternative 1

Under Alternative 1, habitat impacts by commercial gear will not be directly associated with spiny dogfish harvest. This is because the bycatch allowance for spiny dogfish (600 pounds per trip) is not expected to significantly affect the distribution or intensity of fishing effort. Commercial gear types currently used to harvest spiny dogfish include sink gill nets, and bottom otter trawls (Table 7). Of these gear types, the bottom otter trawl is the most likely to be associated with adverse impacts to habitat since it is a bottom-tending mobile gear. The primary impact associated with this type of gear is reduction of bottom habitat complexity (Auster and Langton, 1999). Because no increase

in the distribution or intensity of bottom otter trawl fishing effort is expected under Alternative 1, its implementation should not increase trawl impacts to habitat, including EFH.

7.1.4 Impacts on Endangered Species and Other Protected Resources of Alternative 1

Among the various components of the spiny dogfish fishery, the North Carolina gillnet fishery for spiny dogfish has been historically important in takes of both sea turtles and Atlantic bottlenose dolphins. Management measures consistent with the Federal spiny dogfish rebuilding plan have eliminated directed fishing for spiny dogfish, including the gillnet fishery for spiny dogfish in North Carolina. Additionally, the combination of protective measures under the Harbor Porpoise Take Reduction Plan (HPTRP) and management measures consistent with the spiny dogfish rebuilding plan have been sufficient to reduce the bycatch of harbor porpoise below PBR levels. Because no directed spiny dogfish fishery exists in Federal waters, and none is expected to develop under Alternative 1, encounters with endangered and other protected resources are not expected to increase.

7.1.5 Fishery and Socioeconomic Impacts of Alternative 1

As the data from the 2004 fishing year shows, the U.S. commercial spiny dogfish landings may be controlled more by the possession limits than the overall quota, unless the quota is set so low as to be constraining. Setting the possession limit at 600 lb throughout the year, as opposed to 600 and 300 pounds in periods 1 and 2 respectively, would allow fishermen to land higher amounts of dogfish per trip in the second period as compared to the no action alternative. Thus it is possible that this alternative would allow for a slight increase in revenues from dogfish landings for some vessel owners. If the 1,124 trips that landed spiny dogfish in period 2 of FY2004 had all landed 600 pounds, periodic landings would have increased from 320,000 pounds to 560,000 pounds, for a net increase of 240,000 lb, which, at the average price of 0.17 cents per pound of dogfish, equals roughly an addition $41,000 in net revenue. This outcome is not expected to be significant for any community; however this increase could provide some slight benefit for some individuals. In FY2004, vessel-level gross revenues from spiny dogfish ranged from $2 to about $9,300.

There would be an administrative benefit to setting the specifications for a period of 3 years. Although in the intervening years, the Council and NMFS would be monitoring the status of the dogfish stock to determine if any changes to the specifications are warranted, the annual review under this proposal will be less administratively time consuming than going through a full-blown specifications setting process every year. Setting the specifications for 3 years also would give fishermen the opportunity to have a longer time horizon for business planning.

In the longer term, Alternative 1 is associated with a stock recovery timeframe similar to the no action alternative, presuming that the restrictive possession limits maintain landings at FY2004 levels.

7.2 Alternative 2 - (New England Council Alternative)

Specify commercial quota of 4.0 million pounds for the upcoming fishing year (FY2006) only. Within the fishing year, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

7.2.1 Managed Resource Impacts of Alternative 2

The impacts of this alternative on dogfish will be virtually identical to those cited for Alternative 1 (see section 7.1.1). The only differences between this alternative and the Alternative 1 is that this would set a 4 million lb quota and sets measures for only one year, as opposed to three. Since the evidence shows that U.S. commercial spiny dogfish landings may be controlled more by the possession limits than the overall quota, it is unlikely that setting the quota at 4 million lb versus 2 million lb would significantly change the amount of dogfish landed when the possession limits for both Alternatives are identical. Therefore, this alternative would allow rebuilding of the dogfish stock. If landings under this Alternative reach 4 million lbs, rebuilding could be extended by one or two years longer than Alternative 1, which would cap landings at 2 million lbs. This would also be true if the no-action alternative maintained landings at 2 million lbs. Because the period 2 possession limit would increase to 600 pounds, Alternative 2 may result in decreased regulatory discarding of spiny dogfish relative to current levels.

7.2.2 Non-target Species Impacts of Alternative 2

By continuing to eliminate directed spiny dogfish effort, Alternative 2 effectively eliminates bycatch mortality attributable to the dogfish fishery. As such, Alternative 2 is not associated with bycatch impacts on non-target species.

7.2.3 Habitat Impacts of Alternative 2

Because no increase in the distribution or intensity of bottom otter trawl fishing effort is expected under Alternative 2, its implementation should not increase trawl impacts to habitat, including EFH (also see section 7.1.3).

7.2.4 Protected Resources Impacts of Alternative 2

Because no directed spiny dogfish fishery exists in Federal waters, and none is expected to develop under Alternative 2, encounters with endangered and other protected resources are not expected to increase (also see section 7.1.4).

7.2.5 Fishery and Socioeconomic Impacts of Alternative 2

The fishery and socioeconomic impacts of alternative 2 are expected to be virtually identical to the impacts of Alternative 1, since it is possession limits and not the overall quota that is considered to be the constraining factor on landings. However, if for some reason the entire quota set by this alternative (4 million lb) were landed, annual revenues from dogfish harvest would exceed baseline levels (~$260,000; Table 11). Full realization of the quota at the FY2004 price per pound (0.17; Table 5) would correspond to an increase of $420,000 or 162%. As noted above, the larger period 2 possession limit would allow for potentially doubled trip-level revenues in period 2 which would benefit some individuals. Significant revenue increases are considered unlikely for any vessel or community, however. In the longer term, Alternative 2 is associated with a stock recovery timeframe similar to the no action alternative. Any delays in stock recovery would also delay economic and social benefits associated with a sustainable directed fishery.

One difference between the impacts of this alternative and those of Alternative 1 is that this one does not have the administrative benefits associated with setting the specifications for 3 years.

7.3 Alternative 3 - (No Action Alternative)

Alternative 3 would maintain status quo possession limits of 300 lb for quota period 1 and 600 lb for quota period 2 for FY2006; however it would fail to establish a commercial quota for spiny dogfish. This is because the 300 and 600 lb possession limits are included in the spiny dogfish regulations and will remain in place unless those regulations are specifically changed. Thus, if no action is taken to set specifications, the 300 and 600 lb possession limits will remain. The quota, on the other hand, is not imbedded in the regulations, and must be specified through the process established in the FMP.

7.3.1 Managed Resource Impacts of Alternative 3

Under this alternative, U.S. commercial spiny dogfish landings would be controlled only by possession limits. These possession limits, not the commercial quota have, in fact, eliminated the directed commercial fishery for spiny dogfish in U.S. waters. The possession limits under the no action alternative are the same possession limits that were in place during the 2004 fishing year, for both state and federal waters, when the Federal government and the Atlantic States Marine Fisheries Commission instituted identical management measures, which included a 4 million lb quota. During that year dogfish landings were approximately 1.5 million lb. Therefore, under this alternative it is assumed that landings would be roughly the same as they were during the 2004 fishing year. As such, implementation of Alternative 3 would be expected to maintain status quo conditions and result in no significant changes to the human environment in FY2006 compared to FY2005.

7.3.2 Non-target Species Impacts of Alternative 3

By continuing to limit directed spiny dogfish fishing effort, the no-action alternative effectively eliminates bycatch mortality attributable to the dogfish fishery. As such, the no-action alternative is not associated with bycatch impacts on non-target species.

7.3.3 Habitat Impacts of Alternative 3

Because no increase in the distribution or intensity of fishing effort is expected under the no-action alternative, its implementation should not increase trawl impacts to habitat, including EFH.

7.3.4 Protected Resources Impacts of Alternative 3

Because no directed spiny dogfish fishery exists in Federal waters, and a directed fishery for dogfish is not expected to develop under the no-action alternative, encounters with endangered and other protected resources are not expected to increase as compared with status quo conditions.

7.3.5 Fishery and Socioeconomic Impacts of Alternative 3

Unpublished NMFS dealer reports indicate that roughly 1.5 million pounds of spiny dogfish valued at about $260,000 were landed by U.S. commercial vessels in the 2004 fishing year (Tables 4, 5). This level of landing occurred when the possession limits were the same as they would be under the no-action alternative. Therefore, the implementation of this alternative would be expected to result in roughly the same landings as those tallied in 2004.

7.4 Alternative 4 - (NMFS-Preferred Alternative)

Specify commercial quota of 4.0 million pounds for the upcoming fishing year (FY2006) only. Within the fishing year, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). The quota is allocated semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

7.4.1 Managed Resource Impacts of Alternative 4

This alternative is identical to Alternative 2, but would be implemented for 3 years instead of 1. The impacts of this alternative on the spiny dogfish stock would be the same as those identified for Alternative 2 because setting the specifications for three years does not place the dogfish stock at any greater jeopardy than setting those same specifications for one year. Framework Adjustment 1 to the Spiny Dogfish FMP stipulates that, “if new information was to indicate that modification to the multi-year management measures is necessary, the Councils would initiate specification of management measures required to make such modifications. More specifically, NOAA Fisheries managers and Council staff will continue to review data collected from the fishery and resource surveys, and will

raise to the Councils any changes in stock status that might require the Council to revise the specifications before the multi-year period runs its course." This provision allows the Council to respond to any changes in stock status that might require revised specifications before the multi-year period runs its course.

7.4.2 Non-target Species Impacts of Alternative 4

These impacts would be identical to those resulting from the implementation of Alternative 2 (see section 7.2.2).

7.4.3 Habitat Impacts of Alternative 4

These impacts would be identical to those resulting from the implementation of Alternative 2 (see section 7.2.3).

7.4.4 Protected Resources Impacts of Alternative 4

These impacts would be identical to those resulting from the implementation of Alternative 2 (see section 7.2.4).

7.4.5 Fishery and Socioeconomic Impacts of Alternative 4

These impacts would be virtually identical to those resulting from the implementation of Alternative 2 (see section 7.2.5), with the following additional consideration. There would also be an administrative benefit to setting the specifications for a period of 3 years. Although in the intervening years, the Council and NMFS would be monitoring the status of the dogfish stock to determine if any changes to the specifications are warranted, the annual review under this proposal will be less administratively time consuming than going through a full-blown specifications setting process every year. Setting the specifications for 3 years also would give fishermen the opportunity to have a longer time horizon for business planning.

7.5 Cumulative Impacts

7.5.1 Introduction; Definition of Cumulative Effects

This section analyzes and discusses the significance of the cumulative impacts of the proposed alternatives. Cumulative impacts are defined under NEPA as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action" (40 CFR § 1508.7). Consistent with NEPA, the MSFCMA, as currently amended by the SFA, requires that management actions be taken only after consideration of impacts to the biological, physical, economic, and social dimensions of the human environment. Additionally, the SFA promotes long-term positive impacts on the environment through enumerated management criteria in the National Standards. To the degree to which this regulatory

regime is complied with, the cumulative impacts of past, present, and future Federal fishery management actions on the spiny dogfish stock should generally be positive. This specifications package serves to analyze and discuss the significance to the human environment of impacts that may result from the various Federal management measures proposed herein. Consideration is given to the relative probability that each alternative will achieve the management objectives of the FMP through biological/ecological, socioeconomic, and legal review by experts on Council staff and NMFS. In addition, this Cumulative Impacts Section specifically considers the proposed management alternatives in the context of the cumulative impacts of past, present and reasonably foreseeable future actions. The analysis is generally qualitative in nature because of the limitations of determining effects over the large geographic areas under consideration.

Temporal and Geographic Scope of the Cumulative Impacts Analysis In terms of past actions for fisheries, habitat and socioeconomic impacts, the temporal scope of this analysis is primarily focused on actions that have taken place since the early 1990s, when the directed U.S. spiny dogfish commercial fishery began its rapid expansion. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, the analysis considers the period between the effective date for these specifications (May 1, 2006) and the year by which the stock is currently expected to be fully recovered (2025).

The geographic scope of the analysis of impacts to fish species and habitat for this action is the range of the fisheries in the Western Atlantic Ocean, as described in the Affected Environment and Environmental Consequences sections of the document (Sections 6.0 and 7.0). For endangered and protected species the geographic range is the total range of each species (Appendix). The geographic range for socioeconomic impacts is defined as those fishing communities bordering the range of the commercial spiny dogfish fishery (Sections 6.5.1 and 6.5.2) from the U.S.-Canada border to, and including, North Carolina.

Non-Fishing Activities Cumulative impacts from non-fishing activities such as pollution, loss of coastal wetlands, marine transportation, and marine mining pose a risk to the spiny dogfish resource. These impacts are most likely to occur indirectly through habitat degradation. As indicated in the FMP, EFH for both juvenile and adult spiny dogfish is widespread, and includes generally all continental shelf waters from the Gulf of Maine to Cape Canaveral, Florida. Additionally, no habitat areas of particular concern (HAPC) have been identified to date for spiny dogfish. Nevertheless, the potential for adverse impacts to spiny dogfish and spiny dogfish EFH should coincide with wherever human induced disturbances are occurring. Activities of concern may include chemical pollutants, sewage, changes in water temperature, salinity and dissolved oxygen, suspended sediment and activities that involve dredging and the disposal of dredged material. Non-fishing activities generally tend to be concentrated in nearshore areas. Wherever these activities co-occur, they are likely to work synergistically to decrease habitat quality and may indirectly constrain population recovery. The degree to which this is occurring is currently unknown and/or unquantifiable.

7.5.2 Target Fishery Impacts

The Federal spiny dogfish FMP eliminated directed fishing for spiny dogfish in Federal water, greatly reducing fishing mortality and halting the decline in female spawning stock biomass. Following the initiation of Federal management of spiny dogfish, increased activity by the Canadian dogfish fishery and inconsistent harvest policy in state waters constrained the Federal recovery plan from succeeding in the manner that had been originally envisioned. Recovery to 90% of SSB_{max} was expected by the 2004 fishing year, however, the 2004 update to the status of the stock indicated that biomass is currently about 30% of SSB_{max}. Recent population projections suggest a time span of 15 to 20 years before the stock will fully recover. These projections include the assumption that status quo levels of discarding and recreational removals will be maintained (proportionally) throughout the rebuilding period. Nevertheless, as a result of past actions (implementation of the Federal FMP and, more recently, extension of the rebuilding plan into state waters), fishing mortality on mature female dogfish dropped from around 0.30 in 1998 to about 0.07 in 2004. Therefore, although the rebuilding goals in the Federal FMP have not been fully achieved, the additive effects of past management actions have directly benefited the spiny dogfish stock. This effect is expected to continue as the stock recovers.

7.5.3 Non-target Species Impacts

The establishment of the Federal spiny dogfish FMP, which eliminated the directed spiny dogfish fishery in Federal waters, is associated with positive indirect impacts on non-target species. At the present time the spiny dogfish is itself a non-target species, the landing of which is a byproduct of the activity of other fishery operations. At present, participants in these other fisheries may obtain a Federal permit that will allow them to retain and sell small amounts of incidentally captured spiny dogfish. The current incidental catch allowance is 600 pounds per possession in quota period 1 (May 1 – Oct 31) and 300 pounds per possession in quota period 2 (Nov 1 – Apr 30) which is applied throughout U.S. waters (state and Federal). There are no known plans to investigate methods to decrease spiny dogfish bycatch in other fisheries. Given the protracted rebuilding period estimated in the latest stock assessment (~20 years), the corresponding management advice does not allow for the development of a directed spiny dogfish fishery in the near future. To the extent that harvest policy consistent with that advice is implemented, a directed fishery for spiny dogfish is not likely to return in the near future. As such, positive indirect impacts on non-target species as a result of spiny dogfish harvest policy are expected to continue for several years.

7.5.4 Endangered and Other Protected Species Impacts

The North Carolina gillnet fishery for spiny dogfish was historically important in the incidental capture of both sea turtles and Atlantic bottlenose dolphins. Management measures consistent with the Federal spiny dogfish rebuilding plan, have eliminated of directed fishing for spiny dogfish, including the gillnet fishery for spiny dogfish in North Carolina. Additionally, protective measures under the Harbor Porpoise Take Reduction Plan (HPTRP) in combination with Federal spiny dogfish harvest policy have been sufficient to reduce the fishery interactions with harbor porpoises below PBR levels. The

impacts of these past management actions can be characterized as indirect and positive in that they have potentially reduced mortality for these species that was previously associated with the spiny dogfish fishery. The dominant gear types currently associated with the retention of spiny dogfish (sink gill nets and bottom otter trawls) are used by several fisheries identified in the List of Fisheries for 2004 (69 CFR 48407). Sink gill nets are deployed in two Category I fisheries: "mid-Atlantic coastal gillnet" and "Northeast sink gillnet". Bottom otter trawls are deployed by two Category II fisheries: "Mid-Atlantic bottom trawl" and "Northeast bottom trawl". Because directed fishing for spiny dogfish has effectively been eliminated in Federal waters since FY2000 (and as of FY2004, in state waters, as well), it is unlikely that the current distribution and intensity of fishing effort by these gear types is significantly influenced by the small bycatch allowance for spiny dogfish. Additionally, the protracted rebuilding period (~20 years) estimated in the latest assessment of the spiny dogfish stock, does not allow for the development of a directed spiny dogfish fishery in the near future. As such, positive indirect impacts on endangered and other protected species as a result of spiny dogfish harvest policy are expected to continue for several more years.

7.5.5 Habitat Impacts

Commercial gear types historically used to harvest spiny dogfish include sink gill nets, bottom longlines, and bottom otter trawls. Of these gear types, the bottom otter trawl is the most likely to be associated with adverse impacts to habitat since it is a bottom-tending mobile gear. The primary impact associated with this type of gear is reduction of bottom habitat complexity (Auster and Langton, 1999). Prior to the implementation of the Federal Spiny dogfish FMP, bottom otter trawls were an important component of the directed fishery, for example, harvesting as much as 30% of the annual landings in 1999. In FY2003, however, bottom otter trawls contributed less than 3% of the total commercial landings (Table 7). More importantly, as stated throughout this document, directed fishing for spiny dogfish has effectively been eliminated in Federal waters since FY2000, and as of FY2004, in state waters, as well. As such, it is unlikely that the current distribution and intensity of bottom otter trawl effort is significantly influenced by the small bycatch allowance for spiny dogfish. Additionally, the protracted rebuilding period (~20 years) estimated in the latest assessment of the spiny dogfish stock, does not allow for the development of a directed spiny dogfish fishery in the near future. Therefore, positive indirect impacts by the spiny dogfish fishery on habitat, including EFH is expected to continue for several more years.

7.5.6 Fishery and Socioeconomic Impacts

As a result of the implementation of the spiny dogfish FMP, indirect negative effects have been incurred by the socioeconomic sector of the environment through loss of revenue to fishermen and decreased export revenue to wholesalers. These negative indirect effects are expected to be ameliorated as recovery of the spiny dogfish stock proceeds. Under the proposed alternatives, the directed fishery would continue to be eliminated; therefore, revenues associated with dogfish harvest should not change in the near term relative to the status quo, disregarding changes in market value. Nevertheless, a sustainable directed fishery is not expected to occur for several more years given the

protracted rebuilding period (~20 years) estimated in the latest assessment of the spiny dogfish stock.

7.5.7 Summary/Conclusions

The NMFS-preferred alternative represents minimal deviation from the no-action alternative or status quo conditions. As such, relative to the no-action alternative, Alternative 4 is associated with an increased (albeit inestimable) risk that landings of spiny dogfish would increase. The magnitude of the increase is unlikely to jeopardize stock recovery, however. Additionally, relative to the no-action alternative, no additional impacts are expected on non-target species, habitat including EFH, protected resources, or human communities if Alternative 4 is implemented. Given the protracted rebuilding timeframe for spiny dogfish (~20 years) extension of the current quota and a 600-lb possession limit for three years is consistent with stock recovery from a cumulative effects perspective.

Given the importance of spiny dogfish harvest in state jurisdictional waters in recent years, the incremental impact of proposed Federal management actions must be considered in the context of anticipated state fishery activity. Prior to FY2004, divergent state water harvest policy constrained the Federal spiny dogfish stock recovery plan. For both FY2004, and FY2005, however, the ASMFC reduced their overall quota and possession limits to levels consistent with Federal measures. In that context, these recent ASMFC actions should accelerate achievement of Federal FMP objectives. For the upcoming (2006) fishing year, the ASMFC has implemented management measures consistent with Alternative 4. Therefore, at least for that year, state and Federal management measures for spiny dogfish will be consistent.

8.0 ESSENTIAL FISH HABITAT ASSESSMENT

Spiny dogfish have EFH designated in many of the same bottom habitats that have been designated as EFH for most of the groundfish within the Northeast Multispecies FMP, including: Atlantic cod, haddock, monkfish, ocean pout, American plaice, pollock, redfish, white hake, windowpane flounder, winter flounder, witch flounder, yellowtail flounder, Atlantic halibut and Atlantic sea scallops. Broadly, EFH is designated as the bottom habitats consisting of varying substrates (depending upon species) within the Gulf of Maine, Georges Bank, and the continental shelf off southern New England and the mid-Atlantic south to Cape Hatteras for the juveniles and adults of these groundfish. In general, these areas are the same as those designated for spiny dogfish. Fishing activities for spiny dogfish occur in these EFH areas.

Prior to implementation of the FMP, the primary gears utilized to harvest spiny dogfish were otter trawls and gill nets. Since the otter trawl is a bottom- tending mobile gear, it is most likely to be associated with adverse impacts to bottom habitat. The primary impact associated with this type of gear is reduction of habitat complexity (Auster and Langton, 1999). In FY2004, bottom otter trawls comprise about 18% of the harvest of spiny dogfish. The dominant gear types are sink gillnets (66.0% of FY2004 landings) Gear used by the gillnet fisheries are not expected to significantly impact essential fish habitat.

The stock rebuilding objectives established in the spiny dogfish FMP have resulted in fishing effort reductions of about 90% compared to the historic unregulated fishery. This large reduction in effort is expected to have produced a corresponding reduction in gear impacts to bottom habitats. As such, the management alternatives proposed in this document that promote stock rebuilding by maintaining reductions in fishing effort (e.g., Alternatives 1, 2, and 4) are also expected to indirectly benefit EFH by maintaining the reductions in disturbance to bottom habitats.

9.0 APPLICABLE LAWS

9.1 NEPA

9.1.1 Finding of No Significant Environmental Impact (FONSI)

National Oceanic and Atmospheric Administration Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. '1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

The proposed action is intended to achieve the F = 0.03 target, end overfishing and continue to rebuild the spiny dogfish spawning stock biomass. It will do this by continuing to eliminate the directed fishery for dogfish and by keeping landings of dogfish relatively low. It appears that the U.S. commercial spiny dogfish landings are controlled more by the possession limits than the overall quota, unless the quota is set so low as to be constraining. Setting the possession limit at 600 lb throughout the year, as opposed to 600 and 300 pounds in periods 1 and 2 respectively, would allow fishermen to land higher amounts of dogfish per trip in the second period as compared to the no action alternative. Nevertheless, the increased period 2 possession limit is not expected to have much impact on total landings. If the 1,124 trips that landed spiny dogfish in period 2 of FY2004 had all landed 600 pounds, periodic landings would have increased from 320,000 pounds to 560,000 lb, and overall landings would have been below 2 million lb. This increase in landings is small in comparison to the major contributors to fishing mortality (2004 Canadian landings: 5 million pounds, and 2004 U.S. Commercial discards: 14 million pounds) which by themselves exceeded that fishing mortality target of 0.03. This alternative should contribute to the rebuilding of the dogfish stock over time. Additionally, because the period 2 possession limit would increase to 600 pounds, the proposed action also may result in decreased regulatory discarding of spiny dogfish relative to current levels, if with the higher possession limit in period a larger amount of dogfish, which would have been discarded, are brought in.

Since the evidence shows that U.S. commercial spiny dogfish landings may be controlled more by the possession limits than the overall quota, it is unlikely that setting the quota at 4 million lb versus 2 million lb would significantly change the amount of dogfish landed when the possession limits for both Alternatives are identical. Therefore, this alternative would allow rebuilding of the dogfish stock. If landings under this Alternative reach 4 million lbs, rebuilding could be extended by one or two years longer than Alternative 1, which would cap landings at 2 million lbs. See Section 7.4.1.

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

The proposed action is not expected to jeopardize the sustainability of any non-target species. By continuing to eliminate directed spiny dogfish effort, the proposed action effectively eliminates bycatch mortality attributable to the dogfish fishery. The proposed action is not expected to alter fishing methods or activities. In addition, the proposed action is not expected to increase fishing effort. See Section 7.4.2.

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

The proposed action is not expected to cause damage to the ocean, coastal habitats, and/or EFH as defined under the Magnuson-Stevens Act and identified in the FMP. In general, spiny dogfish harvest is a byproduct of fishing activities in other fisheries. As such, the harvest of spiny dogfish is not directly associated with impacts on habitat, including EFH, and this is expected to continue for several more years. As long as a directed fishery for spiny dogfish does not exist, and the retention of spiny dogfish is a byproduct of the activity of other fisheries, impacts on habitat will continue to be analyzed under the management plans for those fisheries.

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

No changes in fishing behavior that would affect safety are anticipated. The overall effect of the proposed action will not impact adversely public health or safety. NMFS will consider comments received concerning safety and public health issues.

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

The proposed action is not reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat for these species. As stated in Section 7.0 of the EA, the activities to be conducted under the proposed action are within the scope of the FMP and do not change the basis for the determinations made in previous consultations. No increase or redistribution of effort is expected under the proposed action.

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. The action is not expected to alter fishing methods or activities or increase fishing effort or the spatial and/or temporal distribution of current fishing effort. See Section 7.4.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

The proposed action is not expected to have a substantial impact on the natural or physical environment. The proposed action is not expected to alter fishing methods or activities, and is not expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort that would result in an increase in revenue generated from this fishery. Therefore, the action would not result in social or economic impacts that are interrelated with significant natural or physical environmental effects. See Section 7.4.5.

8) Are the effects on the quality of the human environment likely to be highly controversial?

Although the Councils' management recommendations reflect some disagreement, Federal and state managers generally acknowledge that directed fishing, which targets mature female spiny dogfish, should be curtailed during the stock-rebuilding process. Rebuilding as estimated at the most recent stock assessment could take at least 20 years. The management measures proposed in this document agree in that they are intended to prevent overfishing of the spiny dogfish resource and rebuild it to sustainable levels. Although there is some controversy over the setting of dogfish specifications, the effects of this action are not expected to be highly controversial.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

This action merely revises the proposed annual commercial quotas and possession limits for spiny dogfish. This fishery is not known to be prosecuted in any unique areas such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas. Therefore, the proposed action is not expected to have a substantial impact on any of these areas.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The impacts of the proposed action on the human environment are described in section 7.0 of the EA. The proposed action merely revises the annual commercial quota and

possession limits for the spiny dogfish fishery. The proposed action is not expected to alter fishing methods or activities, and is not expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The measures contained in this action are not expected to have highly uncertain, unique, or unknown risks on the human environment.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

As discussed in section 7.4, the proposed action is not expected to have individually insignificant, but cumulatively significant impacts. The synergistic interaction of improvements in the condition of the stock are expected to generate positive impacts overall. The proposed actions, together with past and future actions are not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

The proposed action merely revises the annual commercial quotas and possession limits for the spiny dogfish fishery. This fishery is not known to be prosecuted in any areas that might affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause the loss or destruction of significant scientific, cultural or historical resources. Therefore, the proposed action is not expected to affect on any of these areas.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

The proposed action merely revises the annual commercial quotas and possession limits for the spiny dogfish fishery. There is no evidence or indication that this fishery has ever resulted in the introduction or spread of nonindigenous species. The proposed action is not expected to alter fishing methods or activities, and is not expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, it is highly unlikely that the proposed action would be expected to result in the introduction or spread of a non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

The proposed action merely revises the annual commercial quotas and possession limits for the spiny dogfish fishery. Setting commercial fishing specifications is a common fisheries action, and as such does not establish a precedent. For future actions or represent a decision in principle about a future consideration. The proposed action is not expected to alter fishing methods or activities, and is not expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. When new stock assessment

or other biological information about these species becomes available in the future, then the annual specifications may be adjusted according to the overfishing definitions contained in the FMP. The proposed action will not result in significant effects, nor does it represent a decision in principle about a future consideration.

15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

The proposed action merely revises the annual commercial quotas and possession limits for the spiny dogfish fishery. The proposed action is not expected to alter fishing methods or activities such that they threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. In fact, the proposed action has been found to be consistent with other applicable laws (see sections 9.2 - 9.9 below).

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

The impacts of the preferred alternatives on the biological, physical, and human environment are described in section 7.0. The cumulative effects of the proposed action on target and non-target species are detailed in section 7.5. The proposed action is not expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The synergistic interaction of improvements in the condition of the stock through implementation of annual quotas based on the fishing mortality target contained in the FMP is expected to generate positive impacts overall.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment, it is hereby determined that the proposed actions in this specification package will not significantly impact the quality of the human environment as described above and in the Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

_____ _____

Assistant Administrator for Fisheries, NOAA *Date*

9.3 Marine Mammal Protection Act

The MAFMC has reviewed the impacts of the proposed spiny dogfish specifications on marine mammals and has concluded that the proposed management actions are consistent with the provisions of the MMPA, and will not alter existing measures to protect the species likely to inhabit the spiny dogfish management unit. For further information on

the potential impacts of the fishery and the proposed management action on marine mammals, see Section 7.1 of this document.

9.4 Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The MAFMC has concluded, using information available at this writing, that the proposed spiny dogfish specifications is not likely to jeopardize any ESA-listed species or alter or modify any critical habitat, based on the discussion of impacts in this document (Section 7.1).

9.5 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, as amended, provides measures for ensuring stability of productive fishery habitat while striving to balance development pressures with social, economic, cultural, and other impacts on the coastal zone. It is recognized that responsible management of both coastal zones and fish stocks must involve mutually supportive goals.

The Council must determine whether the FMP will affect a state's coastal zone. If it will, the FMP must be evaluated relative to the state's approved CZM program to determine whether it is consistent to the maximum extent practicable. The states have 60 days in which to agree or disagree with the Council's evaluation. If a state fails to respond within 60 days, the state's agreement may be presumed. If a state disagrees, the issue may be resolved through negotiation or, if that fails, by the Secretary.

The Council determined that the action in this specifications package is consistent to the maximum extent practicable with the enforceable provisions of the approved coastal management programs as understood by the Council. This determination was submitted for review by the responsible state agencies on January 5, 2006 under section 307 of the Coastal Zone Management Act. Letters were sent to each of the following states (point of contact in parentheses) within the management unit reviewing the consistency of the proposed action relative to each state’s Coastal Zone Management Program: Maine (Kathleen Leyden), New Hampshire (Brian Mazerski), Massachusetts (Joe Pelzarski), Rhode Island (Grover Fugate), Connecticut (Charles Evans), New York (William Barton), New Jersey (Mark Mauriello), Pennsylvania (Lawrence Toth), Delaware (Sarah Cooksey), Maryland (Gwynne Schultz), Virginia (Silvia Gazzera), and North Carolina (Steven Benton).

9.6 Administrative Procedures Act

Sections 551-553 of the Federal Administrative Procedure Act establish procedural requirements applicable to informal rulemaking by federal agencies. The purpose is to ensure public access to the federal rulemaking process and to give the public notice and an opportunity to comment before the agency promulgates new regulations.

The Administrative Procedure Act requires solicitation and review of public comments on actions taken in the development of a fishery management plan and subsequent amendments and framework adjustments. Development of this specifications document provided many opportunities for public review, input, and access to the rulemaking process. This proposed specifications document was developed as a result of a multi-stage process that involved review of the source document (2006 Specifications package) by affected members of the public. The public had the opportunity to review and comment on management measures during the Spiny Dogfish Monitoring Committee Meeting held on September 22, 2005 and during the MAFMC meeting held on October 4-6, 2005 in Southampton, NY, and the NEFMC meeting held on November 15-16, 2005 in Hyannis, MA. In addition, the public will have further opportunity to comment on this specifications package once NMFS publishes a request for comments notice in the Federal Register (FR).

9.7 Data Quality Act

Utility of Information Product

The proposed document includes: A description of the proposed specifications, description of the alternatives considered, and the reasons for selecting the proposed management measures. This action proposes commercial quotas and other management measures for spiny dogfish in 2006. This proposed specifications document implements the FMP's conservation and management goals consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as well as all other existing applicable laws.

This proposed specifications document was developed as a result of a multi-stage process that involved review of the source document (2006 Specifications package) by affected members of the public. The public had the opportunity to review and comment on management measures during the Spiny Dogfish Monitoring Committee Meeting held on September 22, 2005 in Providence, RI and during the MAFMC meeting held on October 4-6, 2005 in Southampton, NY, and the NEFMC meeting held on November 15-16, 2005 in Hyannis, MA.

The Federal Register notice that announces the proposed rule and the implementing regulations will be made available in printed publication and on the website for the Northeast Regional Office. The notice provides metric conversions for all measurements.

Integrity of Information Product

The information product meets the standards for integrity under the following types of documents:

Other/Discussion (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100, Protection of

Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act.)

Objectivity of Information Product

The category of information product that applies for this product is "Natural Resource Plans."

In preparing specifications documents, the Council must comply with the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Regulatory Flexibility Act, the Administrative Procedure Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Data Quality Act, and Executive Orders 12630 (Property Rights), 12866 (Regulatory Planning), 13132 (Federalism), and 13158 (Marine Protected Areas).

This specifications document has been developed to comply with all applicable National Standards, including National Standard 2. National Standard 2 states that the FMP's conservation and management measures shall be based upon the best scientific information available. Despite current data limitations, the conservation and management measures proposed to be implemented under this specifications document are based upon the best scientific information available. This information includes NMFS dealer weighout data for 2004, which was used to characterize the economic impacts of the management proposals. These data, as well as the NMFS Observer program database, were used to characterize historic landings, species co-occurrence in the spiny dogfish catch, and discarding. The specialists who worked with these data are familiar with the most recent analytical techniques and with the available data and information relevant to the spiny dogfish fishery. Marine Recreational Fisheries Statistical Survey (MRFSS) data were used to characterize the recreational fishery for this species.

The policy choices (i.e., management measures) proposed to be implemented by this specifications document are supported by the available scientific information and, in cases where information was unavailable, proxy reference points are based on observed trends in survey data. The management measures contained in the specifications document are designed to meet the conservation goals and objectives of the FMP, and prevent overfishing and rebuild overfished resources, while maintaining sustainable levels of fishing effort to ensure a minimal impact on fishing communities.

The supporting materials and analyses used to develop the measures in the proposed rule are contained in the specifications document and to some degree in previous specifications and/or FMPs as specified in this document.

The review process for this specifications package involves the Mid-Atlantic Fishery Management Council, the Northeast Fisheries Science Center, the Northeast Regional Office, and NOAA Fisheries headquarters. The Center's technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, population biology, and the social sciences. The Council review process involves public meetings at which affected stakeholders have opportunity

to provide comments on the specifications document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the specifications document and clearance of the rule is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

9.8 Paperwork Reduction Act

The Paperwork Reduction Act (PRA) concerns the collection of information. The intent of the PRA is to minimize the Federal paperwork burden for individuals, small businesses, state and local governments, and other persons as well as to maximize the usefulness of information collected by the Federal government. There are no changes to the existing reporting requirements previously approved under this FMP for vessel permits, dealer reporting, or vessel logbooks. This action does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

9.9 Impacts Relative to Federalism/E.O. 13132

This specifications document does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order (EO) 13132.

9.10 Regulatory Flexibility Act/E.O. 12866

9.10.1 Regulatory Impact Review and Initial Regulatory Flexibility Analysis (IRFA)

This section provides the analysis and conclusions to address the requirements of Executive Order 12866 and the Regulatory Flexibility Act (RFA). Since many of the requirements of these mandates duplicate those required under the Magnuson-Stevens Act and NEPA, this section contains references to other sections of this document. The following sections provide the basis for concluding that the proposed action is not significant under E.O. 12866 and will not have a significant economic impact on a substantial number of small entities under the RFA.

9.10.2 Description of Management Objectives

The goals and objectives of the management plan for the spiny dogfish resource are stated in Section 1.1.3 of the spiny dogfish FMP. The proposed action is consistent with, and does not modify those goals and objectives.

9.10.3 Description of the Fishery

Section 2.3 of the spiny dogfish FMP contains a detailed description of the historic spiny dogfish fishery. Updated fishery activity is given in Section 6.5 of this document.

9.10.4 Statement of the Problem

The purpose and need for this action is identified in Section 4.1 of this document. The spiny dogfish FMP requires that the Councils and the Regional Administrator review the best available stock and fishery data when developing specifications for the upcoming fishing year(s).

9.10.5 Description of the Alternatives

Alternative 1 – (Mid-Atlantic Council Alternative)
Specify commercial quota of 2.0 million pounds for each of the upcoming three fishing years (FY2006 through FY2008). Within the fishing years, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quotas would be divided with quota period 1 (May 1 through October 31) being allocated 57.9% of the 2,000,000 pound quota (1,158,000 pounds), and quota period 2 (November 1 through April 30) being allocated 42.1% of the 2,000,000 pound quota (842,000 pounds).

Alternative 2 – (New England Council Alternative)
Specify commercial quota of 4.0 million pounds for the upcoming fishing year (FY2006) only. Within the fishing year, specify possession limits of 600 pounds (vessels are prohibited from landing more than the specified amount in one calendar day). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

Alternative 3 - (No Action Alternative)
Alternative 3 would maintain status quo (FY2005) possession limits for FY2006; however it would fail to establish a commercial quota for spiny dogfish. This is because the 300 and 600 lb possession limits are included in the spiny dogfish regulations and will remain in place unless those regulations are changed. The quota is not imbedded in the regulations.

Alternative 4 - (NMFS-Preferred Alternative)
Specify commercial quota of 4.0 million pounds and a possession limit of 600 pound for the next three fishing years (FY2006-2009). As per the FMP, the quota is to be divided semi-annually with quota period 1 (May 1 through October 31) being allocated 2,316,000 pounds (57.9% of the 4,000,000 pound quota), and quota period 2 (November 1 through April 30) being allocated 1,684,000 pounds (42.1% of the 4,000,000 pound quota).

9.10.6 Economic Analysis

The economic impacts of the proposed actions are discussed in Section 7.0 of this document. In general, no significant economic impacts are expected because the proposed actions that are consistent with the goals of the FMP (all of the Alternatives) are unlikely to result in significant deviation from the status quo.

9.10.7 Determination of Significance under E.O. 12866

NMFS Guidelines provide criteria to be used to evaluate whether a proposed action is significant. A significant regulatory action means any regulatory action that is likely to result in a rule that may:

1. *Have an annual effect on the economy of $100 million or more, or adversely effect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities.*

The proposed action will not have an effect on the economy in excess of $100 million. The proposed action is not expected to have any adverse impacts on the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local or tribal governments or communities.

2. *Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.*

The proposed action will not create a serious inconsistency with or otherwise interfere with an action taken or planned by another agency. No other agency has indicated that it plans an action that will affect the spiny dogfish fishery in the EEZ.

3. *Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof.*

The proposed action will not materially alter the budgetary impact of entitlements, grants, user fees or loan programs, or the rights and obligations of their participants.

4. *Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.*

The proposed action does not raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

9.10.8 Initial Regulatory Flexibility Analysis

The following sections contain analyses of the effect of the proposed action on small entities. Under Section 603(b) of the RFA, each initial regulatory flexibility analysis is required to address:

1. Reasons why the agency is considering the action,
2. The objectives and legal basis for the proposed rule,
3. The kind and number of small entities to which the proposed rule will apply,
4. The projected reporting, record-keeping and other compliance requirements of the proposed rule, and
5. All Federal rules that may duplicate, overlap, or conflict with the proposed rule.

9.10.9 Reasons for Considering the Action

The purpose and need for this action is identified in Section 4.1 of this document. The spiny dogfish FMP requires that the Council and the Regional Administrator annually review the best available stock and fishery data when developing specifications for the upcoming fishing year.

9.10.10 Objectives and Legal Basis for the Action

The objective of the proposed action is to implement specifications for the spiny dogfish fishery, as required under the regulations implementing the spiny dogfish FMP, which are provided in 65 CFR 1557.

9.10.11 Description and Number of Small Entities to Which the Rule Applies

All of the potentially affected businesses are considered small entities under the standards described in NOAA Fisheries guidelines because they have gross receipts that do not exceed $3.5 million annually. A discussion of vessel activity during the 2004 fishing year is given in Section 6.5.1 of this document.

9.10.12 Recordkeeping and Reporting Requirements

The proposed action does not introduce any new reporting, recordkeeping, or other compliance requirements.

9.10.13 Duplication, Overlap, or Conflict with Other Federal Rules

The proposed action does not duplicate, overlap or conflict with any other Federal rules.

9.10.14 Economic Impacts on Small Entities

Section 7.0 of this document contains the economic analysis of the alternatives that were considered during the specification process.

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11.0 LIST OF AGENCIES AND PERSONS CONSULTED

This document was prepared by the Mid-Atlantic Fishery Management Council in consultation with the National Marine Fisheries Service and the New England Fishery Management Council.

Members of the Spiny Dogfish Monitoring Committee include:

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In addition, the following organizations/agencies were consulted during the development of the spiny dogfish specifications, either through direct communication/correspondence and/or participation in Council public meetings:

NOAA Fisheries, National Marine Fisheries Service, Northeast Regional Office, Gloucester MA
Northeast Fisheries Science Center, Woods Hole MA
Atlantic States Marine Fisheries Commission
The Ocean Conservancy

Letters were also sent to the potentially-affected States for the purposes of reviewing the consistency of the proposed action relative to each State's Coastal Zone Management Program (see Section 7.7 of this document for a list of States that were contacted).

TABLES

Table 1. Landings of spiny dogfish (1,000s lbs) in the Northwest Atlantic Ocean for calendar years 1962 to 2004.

Year	US Comm	US Rec	US Total	Canada	Former USSR	Other Foreign	Total (NW Atl.Stock)
1962	518	-	518	-	-	-	518
1963	1,344	-	1,344	-	-	2	1,346
1964	1,610	-	1,610	-	-	35	1,645
1965	1,076	-	1,076	20	414	22	1,532
1966	1,274	-	1,274	86	20,699	-	22,059
1967	612	-	612	-	5,370	-	5,982
1968	348	-	348	-	9,709	-	10,057
1969	250	-	250	-	19,460	800	20,510
1970	233	-	233	42	10,855	1,578	12,709
1971	162	-	162	9	23,814	1,684	25,669
1972	153	-	153	7	51,372	1,519	53,050
1973	197	-	197	44	31,347	10,084	41,672
1974	281	-	281	79	45,071	8,971	54,401
1975	324	-	324	2	49,231	423	49,980
1976	1,212	-	1,212	7	36,775	236	38,229
1977	2,053	-	2,053	2	15,304	567	17,926
1978	1,826	-	1,826	185	1,272	99	3,383
1979	10,478	-	10,478	2,934	231	181	13,824
1980	9,006	-	9,006	1,477	774	547	11,804
1981	15,135	3,291	18,426	1,243	1,138	1,010	21,817
1982	11,928	154	12,082	2,101	60	743	14,986
1983	10,795	148	10,943	-	791	231	11,965
1984	9,811	201	10,012	9	642	220	10,883
1985	8,880	196	9,076	29	1,530	701	11,336
1986	6,057	401	6,459	46	472	340	7,316
1987	5,960	675	6,634	617	256	51	7,558
1988	6,846	791	7,637	-	1,265	161	9,063
1989	9,903	922	10,825	366	373	192	11,755
1990	32,475	395	32,870	2,901	844	22	36,637
1991	29,049	289	29,338	644	481	35	30,498
1992	37,165	474	37,639	1,828	57	90	39,614
1993	45,509	265	45,774	3,111	-	60	48,944
1994	41,447	340	41,786	4,010	-	4	45,801
1995	50,068	141	50,209	2,090	-	31	52,330
1996	60,055	57	60,112	917	-	520	61,550
1997	40,460	146	40,606	983	-	472	42,061
1998	45,476	134	45,609	2,379	-	1,338	49,326
1999	32,760	119	32,880	5,439	-	1,221	39,540
2000	20,407	10	20,418	5,902	-	1,089	27,408
2001	5,056	61	5,117	8,278	-	666	14,061
2002	4,839	452	5,290	6,614	-	-	11,904
2003	2,579	87	2,667	2,800	-	-	5,467
2004	2,160	244	2,404	5,150	-	-	7,554

Source: unpublished NMFS Dealer Reports, South Atlantic General Canvass, MRFSS data, and SAW-37.

Table 2. Commercial landings (1,000s lbs) of spiny dogfish by state from calendar years 1962 through 2004.

Year	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC	Total
1962	48	0	0	0	6	55	4	0	38	367	0	518
1963	757	0	0	0	0	78	4	0	36	468	0	1,344
1964	225	0	0	1	10	73	1	0	27	1,273	0	1,610
1965	378	0	17	2	15	97	2	0	16	550	0	1,076
1966	572	0	0	0	11	180	3	0	15	493	0	1,274
1967	181	0	15	1	4	196	0	0	14	201	0	612
1968	0	0	1	0	50	136	7	0	16	138	0	348
1969	0	0	0	0	5	145	13	0	17	70	0	250
1970	0	0	5	1	18	119	1	0	13	74	0	233
1971	0	0	1	0	9	111	12	0	3	24	0	162
1972	0	0	2	18	0	113	0	0	5	14	0	153
1973	0	0	12	23	0	98	5	0	10	49	0	197
1974	0	0	7	5	0	176	1	1	14	76	0	281
1975	0	0	4	20	0	223	2	4	6	65	0	324
1976	944	0	7	4	2	206	4	0	7	38	0	1,212
1977	1,748	0	38	58	2	172	10	0	8	16	0	2,053
1978	1,426	70	69	6	5	194	14	1	16	24	0	1,826
1979	2,314	310	6,536	4	9	213	865	0	12	215	0	10,478
1980	1,365	15	6,161	1	0	229	580	0	11	641	3	9,006
1981	1,138	0	9,972	4	4	110	204	8	1,533	2,156	4	15,135
1982	623	0	6,361	3	3	104	5	3	1,974	2,846	6	11,928
1983	496	1	9,987	0	9	57	1	4	213	27	0	10,795
1984	1,247	0	8,164	24	5	77	9	6	259	19	0	9,811
1985	903	0	7,636	2	10	137	8	0	170	14	1	8,880
1986	770	0	4,774	5	19	295	53	0	129	12	0	6,057
1987	598	0	5,148	31	6	156	4	0	8	10	0	5,960
1988	482	1	5,828	1	94	86	10	0	24	19	302	6,846
1989	4,880	0	4,925	4	1	48	23	0	4	19	0	9,903
1990	6,366	185	17,807	1,301	24	18	4,544	0	2,182	7	41	32,475
1991	2,016	0	14,489	3,160	9	77	2,716	6	4,939	174	1,463	29,049
1992	1,719	402	18,376	2,028	22	156	2,535	0	3,063	229	8,635	37,165
1993	3,525	1,642	26,831	1,924	15	95	770	0	1,796	105	8,806	45,509
1994	1,813	2,598	23,214	530	170	237	1,130	0	1,429	447	9,878	41,447
1995	1,664	2,106	28,760	574	294	934	2,389	63	3,117	810	9,357	50,068
1996	911	1,080	26,959	1,129	706	1,328	4,635	0	7,151	2,483	13,674	60,055
1997	449	1,009	21,665	1,015	347	488	3,950	0	4,227	4,275	3,035	40,460
1998	274	1,893	24,911	1,769	267	1,457	6,305	2	2,399	3,190	3,008	45,476
1999	35	1,239	14,915	1,338	88	1,453	3,925	0	2,134	5,018	2,617	32,760
2000	8	2,335	5,762	306	30	1,906	5,222	0	450	1,545	2,845	20,407
2001	0	536	3,913	394	7	63	17	0	0	126	0	5,056
2002	1	349	3,799	438	0	50	1	0	2	196	3	4,839
2003	0	175	2,006	123	1	38	0	0	1	236	0	2,579
2004	3	0	1,208	149	50	53	7	0	6	261	423	2,160

Source: unpublished NMFS Dealer Reports, South Atlantic General Canvass, MRFSS data, and SAW-37.

Table 3. Commercial landings (1,000s lbs) of spiny dogfish by state and month, fishing years 2000-2004 combined.

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Pct of Total	Pct of NE Total
Maine	0	0	0	0	0	1	0	1	2	0	0	0	5	0.0%	0.0%
New Hampshire	11	0	0	0	10	125	246	527	744	454	1,054	157	3,328	14.5%	15.7%
Massachusetts	12	0	0	1	1,073	4,968	2,805	2,381	907	1,034	3,141	149	16,471	71.9%	77.9%
Rhode Island	40	0	0	1	190	480	34	41	21	53	202	183	1,245	5.4%	5.9%
Connecticut	10	0	0	0	3	24	22	10	1	1	9	5	85	0.4%	0.4%
															Pct of MA Total
New York	3	1	1	1	63	107	33	36	24	23	37	16	347	1.5%	19.5%
New Jersey	0	0	0	0	18	7	0	0	0	0	4	0	30	0.1%	1.7%
Delaware	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.0%
Maryland	0	0	0	4	1	0	0	0	0	0	3	0	8	0.0%	0.5%
Virginia	44	4	86	220	422	42	8	6	3	3	1	16	856	3.7%	48.2%
North Carolina	389	131	0	0	0	12	0	0	0	0	0	2	535	2.3%	30.1%
NE Total	73	1	0	2	1,275	5,597	3,107	2,960	1,675	1,543	4,406	495	21,134	92.2%	
MA Total	436	137	87	226	504	169	41	42	28	26	46	35	1,776	7.8%	
GrandTotal	509	137	87	228	1,780	5,766	3,148	3,002	1,703	1,569	4,452	529	22,910	100.0%	

Source: Unpublished NMFS Dealer Weighout and South Atlantic General Canvass data.

Table 4. Commercial spiny dogfish landings (1,000s lbs) for fishing year 2004 (Period I: May through Oct 2004; Period II: Nov 2004 through April 2005) .

State	Period I Landings	Period I Percent of total	Period II Landings	Period II Percent of total	Total FY2003 Landings	Total FY2003 Percent of total
Massachusetts	883	80.4%	338	80.2%	1,221	80.4%
Rhode Island	94	8.6%	42	10.0%	136	9.0%
Connecticut	36	3.3%	22	5.2%	58	3.9%
New York	38	3.4%	12	2.9%	50	3.3%
Virginia	39	0.0%	0	0.0%	40	2.6%
Other	8	0.7%	7	1.6%	14	0.9%
Total	1,098	100.0%	422	100.0%	1,519	100.0%

Period I

Month	May	June	July	August	September	October	Total
Total Landings	35	139	211	203	280	229	1,098
Percent of Total	3.2%	12.7%	19.2%	18.5%	25.5%	20.9%	100.0%

Period II

Month	November	December	January	February	March	April	Total
Total Landings	218	174	28	1	0	2	422
Percent of Total	51.6%	41.3%	6.6%	0.1%	0.0%	0.4%	100.0%

Source: Unpublished NMFS Dealer Weighout and South Atlantic General Canvass data.

Table 5. Ex-vessel value and price per pound of commercially landed spiny dogfish, Maine - North Carolina combined, 1996-2004.

Calendar Year	Value ($)	Price ($/lb)	Fishing Year	Value ($)	Price ($/lb)
1996	10,877	0.18	1996	10,371	0.18
1997	6,781	0.15	1997	5,717	0.14
1998	7,833	0.17	1998	8,338	0.17
1999	5,400	0.16	1999	5,510	0.17
2000	4,342	0.21	2000	1,989	0.24
2001	1,137	0.22	2001	1,147	0.23
2002	989	0.20	2002	970	0.20
2003	364	0.14	2003	415	0.12
2004	311	0.14	2004	260	0.17

Source: Unpublished NMFS Dealer Weighout and South Atlantic General Canvass data.

Table 6. Recreational landings (N) of spiny dogfish by state for 2004.

State	Landings (N)	Pct of Total
MASSACHUSETTS	29,967	67.7%
NEW HAMPSHIRE	3,631	8.2%
NEW JERSEY	3,345	7.6%
VIRGINIA	1,990	4.5%
RHODE ISLAND	1,274	2.9%
MARYLAND	988	2.2%
MAINE	841	1.9%
CONNECTICUT	810	1.8%
DELAWARE	808	1.8%
SOUTH CAROLINA	630	1.4%
Total	44,284	100.0%

Source: NMFS Marine Recreational Fisheries Statistical Survey

Table 7. Commercial gear types associated with spiny dogfish harvest in FY2004.

Commercial Gear Type	Landings (1,000s lbs)	Pct Total
GILL NET,SINK	1,002	66.0%
TRAWL,OTTER,BOTTOM,FISH	276	18.2%
GILL NET,OTHER	62	4.1%
HAND LINE, OTHER	46	3.1%
UNKNOWN/OTHER	131	8.6%
Total	1,518	100.0%

Source: Unpublished NMFS dealer reports

Table 8. Discards associated with the deployment of the dominant gear types used to harvest spiny dogfish in FY2004 as reported in vessel possession report (VTR) data.

Gill Nets, Sink			Bottom Otter Trawl, Fish		
Species	Discards (lbs)	Pct of Total	Species	Discards (lbs)	Pct of Total
DOGFISH SPINY	1,289,498	95%	DOGFISH SPINY	209,099	65%
COD	31,282	2%	SKATE, LITTLE	33,233	10%
LOBSTER	9,877	1%	SKATES	29,640	9%
ANGLER	8,607	1%	SKATE, BIG	16,200	5%
All Others	13,764	1%	FLOUNDER, SUMMER	7,882	2%
			LOBSTER	3,849	1%
			SCUP	3,720	1%
			FLOUNDER, YELLOWTAIL	2,870	1%
			HERRING, ATLANTIC	2,800	1%
			ANGLER	1,834	1%
			All Others	10,347	3%

Source: FY2004 vessel possession reports

Table 9. Federally permitted dogfish vessel activity by home port state in FY2004. Active vessels are defined as vessels reported to have landed spiny dogfish in FY2004.

State	Permitted Vessels	Pct of Total	State	Active Vessels	Pct of Total
MA	1160	39.8%	MA	104	57.8%
ME	345	11.9%	NY	27	15.0%
NJ	341	11.7%	RI	25	13.9%
NY	309	10.6%	NJ	6	3.3%
RI	182	6.3%	CT	5	2.8%
NC	152	5.2%	MD	5	2.8%
VA	141	4.8%	NH	3	1.7%
NH	129	4.4%	Other	5	2.8%
CT	55	1.9%			
MD	26	0.9%			
PA	25	0.9%			
DE	18	0.6%			
FL	16	0.5%			
GA	5	0.2%			
Other	7	0.2%			
Total	2911	100.0%	Total	180	100%

Table 10. Federally permitted spiny dogfish dealers by state in FY2004. Active dealers are defined as dealers who reported having bought spiny dogfish in FY2004.

State	Permitted Dealers	Pct of Total	State	Active Dealers	Pct of Total
MA	68	24.9%	NY	15	29.4%
NY	61	22.3%	MA	14	27.5%
RI	30	11.0%	RI	11	21.6%
NC	29	10.6%	NC	3	5.9%
NJ	24	8.8%	Other	8	15.7%
VA	22	8.1%			
ME	18	6.6%			
NH	7	2.6%			
MD	5	1.8%			
CT	4	1.5%			
Other	5	1.8%			
Total	273	100.0%	Total	51	100.0%

Source: NMFS permit database, Dealer weighout data

Table 11. Commercial landings (pounds) and value of spiny dogfish by port for fishing year 2004.

Port	Landings	Pct of Total	Value	Pct of Total
GLOUCESTER, MA	682,879	45.0%	86,447	33.3%
CHATHAM, MA	418,809	27.6%	75,930	29.2%
POINT JUDITH, RI	86,854	5.7%	11,572	4.5%
STONINGTON, CT	57,062	3.8%	7,536	2.9%
NEWPORT, RI	36,252	2.4%	5,937	2.3%
SANDWICH, MA	34,200	2.3%	5,797	2.2%
PLYMOUTH, MA	32,830	2.2%	6,700	2.6%
MONTAUK, NY	32,447	2.1%	4,652	1.8%
OTHER ACCOMAC, VA	20,999	1.4%	18,681	7.2%
SCITUATE, MA	18,928	1.2%	3,058	1.2%
All Others	96,470	6.4%	33,655	12.9%
TOTAL	1,517,730	100.0%	259,965	100.0%

Source: Unpublished NMFS Dealer Reports